Robert D. Culver June 4, 1998

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CONDENSED TRANSCRIPT AND CONCORDANCE
PREPARED BY:

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IN THE UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF FLORIDA
----------X
CBS BROADCASTING, INC., et al., :
Plaintiff, :
v. : Civil Action
PRIME TIME 24 JOINT VENTURE, : No. 96-3650
Defendant. :
----------X
Washington, D.C.
Thursday, June 4, 1998

Deposition of ROBERT D. CULVER, a witness herein, called for examination by counsel for Plaintiff in the above-entitled matter, pursuant to notice, the witness being duly sworn by DOLORES A. BYERS, a Notary Public in and for the District of Columbia, taken at the offices of Wilmer Cutler, 2445 M Street, N.W., Washington, D.C., at 9:30 a.m., on Thursday, June 4, 1998, and the proceedings being taken down by Stenotype by DOLORES A. BYERS, CSR, and transcribed under her direction.

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APPEARANCES:

On behalf of Plaintiff:
THOMAS OLSON, ESQ.
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On behalf of Defendant:
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ALSO PRESENT:
Natacha D. Steimer, Associate

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EXHIBITS

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PROCEEDINGS

Whereupon,
ROBERT D. CULVER,
business address at 8309 Cherry Lane, Laurel, Maryland 20707-4830, called for examination by counsel for Plaintiff and having been duly sworn by the Notary Public, was examined and testified as follows:

EXAMINATION BY COUNSEL FOR PLAINTIFF
BY MR. OLSON:

Q. Mr. Culver, my name is Tom Olson. I'm an attorney at Wilmer, Cutler and Pickering here in Washington. I am one of the lawyers representing the plaintiffs in this case.

Have you ever been deposed before?

A. Yes.

Q. So you're familiar with the procedures for a deposition?

A. Yes.

Q. If there's any question that I ask that you don't understand, please feel free to tell me and we'll clear it up?

A. Okay.

Q. Mr. Culver, I want you to assume that as of November 1997 Prime Time 24 had approximately 2.9 million subscribers in the United States. Okay?

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A. Fine.

Q. And I want you to assume that when I use the expression Grade B intensity, what I mean is 47 dBu -- that's small "D," large "B," little "U" -- for low VHF stations, 56 dBu for high VHF stations, and 64 dBu for UHF stations.

Do you understand that?

A. Yes, I do.

Q. In your professional opinion how many of Prime Time 24's 2.9 million subscribers can receive through use of a conventional outdoor rooftop receiving antenna an over the air signal of at least Grade B intensity from a CBS station?

A. I have no idea.

Q. Can you assure the court in your professional opinion that the percentage of those 2.9 million subscribers that can receive a Grade B intensity signal from a CBS station is less than 10 percent?

A. I have no way of giving any answer to what the percentage might be. I have not looked into that question.

Q. And would your answers be the same with regard to the ability of Prime Time 24's 2.9 million subscribers who receive an over the air signal of at least Grade B intensity from a Fox station?

A. From any station. I have not looked into the

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question of reception by any of Prime Time 24 viewers on a very general basis like that.

Q. So you could not assure the court that less than 70 percent of the Prime Time 24 subscribers are able to receive an over the air signal of Grade B intensity from a CBS or a Fox station?

A. I have not looked into that question. That was not my task.

(Culver Exhibit No. 1 was marked for identification.)

BY MR. OLSON:

Q. I have previously asked the court reporter to mark a copy of your expert report as Exhibit 1 for identification. Let me give you the official copies and here is a second copy for your counsel.

Would you please confirm that what has been marked as Exhibit 1 is a copy of the expert report that you have provided to Prime Time 24 in connection with this lawsuit?

A. It is complete. Some of the pages are out of order from the original presentation but it is of no consequence.

Q. Okay. But all the pages you believe are there?

A. Yes. I believe all the pages are there. There is probably a cover page that is missing.

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(Culver Exhibit No. 2 was marked for identification.)
BY MR. OLSON:
Q. While we're going through these preliminaries, I wonder if you would take a look at the document that has been marked for identification as Culver Exhibit 2 and confirm for me, if it's correct, that that's a copy of the field notes from the field observations in Missoula?
A. It appears to be a complete copy of the field notes from Missoula.
(Culver Exhibit No. 3 was marked for identification.)
BY MR. OLSON:
Q. Just to complete these preliminaries, the third exhibit, the one that has been marked for identification as Culver exhibit 3, I believe to be a copies of the field notes from the testing in Fresno and I'd ask you, please, to confirm that?
A. Yes. It appears to be a complete copy of the field notes from Fresno.
Q. Thank you very much.
Mr. Culver, your expert report discusses the results of some field tests in the area near Missoula, Montana, and in the area near Fresno, California; correct?
A. Correct.

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Q. Did you personally travel to Missoula to supervise the performance of the tests that were done there?
A. Yes.
Q. And did you go out to each site yourself?
A. Yes.
Q. And did you personally travel to Fresno to supervise the performance of the tests that were connected there?
A. No.
Q. What did the tests in Fresno?
A. They were actually conducted by the person named on the field notes, Mr. Bill Doty, D-o-t-y, under the employment of the firm, I believe it's called, TechNet.
Q. And are you confident that Mr. Doty diligently followed the instructions that you gave him?
A. Based on my conversations with him and with his supervisor at TechNet, I am confident that they performed the tests. There is some information that I have indicated should have been on the field note.
Q. But in general you feel comfortable that they successfully carried out what you asked them to do?
A. In general, yes. That's a fair assumption.
Q. And you do feel comfortable testifying about the results of the work that they did for you even though you didn't personally go to Fresno?

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A. Yes.
Q. And you're comfortable in having the court rely on those results even though you didn't personally gather those data in Fresno?
A. Yes.
Q. In your expert report you mention that you have past made numerous field intensity measurements?
A. Yes.
Q. When did you most recently do a field intensity measurement for a television station?
A. I would have to look at my records in my office to tell you when I most recently did field intensity measurements for a television station.
Q. I am not trying to pin you down to a particular day. Has is it been within the last five years?
A. Certainly within five years.
Q. Were these tests that you did yourself or that someone was doing under your direction as happened in Fresno?
A. It would be under my own -- I would have made the measurements myself.
Q. You were out there with the equipment?
A. Yes.
Q. Where is the last place that you can remember being out there with your equipment doing field intensity

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measurements?
MR. DEUTSCH: Other than in this case?
MR. OLSON: I'm sorry.
BY MR. OLSON:
Q. Other than in Missoula in this case.
A. I would go back to a significant situation that it's easy to remember and we made some very extensive measurements in Florida for the station WTOG television.
Q. What city is WTOG in?
A. I'm sorry. I've drawing a blank on that.
Q. Do you remember whether it's northern Florida or southern --
A. No. It's about south central Florida. It may be Tampa or Saint Pete but I'm not sure exactly what city it's in. I hate to say that about one of my clients but I can't remember who they are. I deal with many of them.
Q. You can get the fact book and find out.
A. That's the easiest thing to do.
Q. What procedures did you follow to measure signal intensity for WTOG?
A. In that case, we were -- as say, this has been a while ago. I'd have to recall. We were actually measuring the performance of two stations, WTOG and another, on a point by point basis at each location. We measured both locations.

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We employed a fairly large van that had videotaping and computer capability and antenna on a pneumatic mask that could be raised up to 30 feet above ground level. And we made field intensity measurements, I believe, and also video recordings.
Q. You mentioned the mask that could be elevated to 30 feet. Why did you evaluate the mask to 30 feet?
MR. DEUTSCH: Objection. The witness actually didn't say he did that. He said the truck had that capability.
BY MR. OLSON:
Q. Let me ask. Did you elevate the mask to 30 feet?
A. We elevated it to the maximum extent of the mask. I don't know if it was precisely 30 feet. It was more than 20 and less than 35.
Q. Was it your effort to get it as close to 30 feet as possible?
A. No.
Q. Why did you choose the height range that you just mentioned?
A. Because that was the height that the mask was capable of.
Q. Did you do a hundred foot run to take signal intensity measurements down in Florida?
A. From my recollection of the project, we did a

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mobile run that may have been as long as a hundred feet. It may have been shorter. It may have been longer.
Q. But it was definitely a mobile run?
A. Yes.
Q. That is, you were driving the truck slowly down the street?
A. Slowly and carefully, yes, recording the signal strength as we went along.
Q. And being careful not to hit any overhead wires?
A. Or branches or anything else. Yes.
MR. DEUTSCH: I'd like to take a break for a moment.
MR. OLSON: Okay.
MR. DEUTSCH: There's no question pending?
MR. OLSON: No.
(Recess.)
BY MR. OLSON:
Q. Did you use an analog to digital converter to record the data about the signal intensity that you were collecting down in Florida?
A. I don't recall. I have done that on some occasions and on others have not.
MR. DEUTSCH: Just answer the question you're asked.
BY MR. OLSON:

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Q. Do you remember in the test you did in Florida roughly how many data points you collected along the mobile run?
A. I don't remember.
Q. In order of magnitude, do you believe it was on the order of ten? On the order of a hundred? On the order of a thousand?
A. More on the order of a hundred.
Q. What other occasions do you recall on which you've, yourself, conducted field intensity measurements of television stations?
A. I really don't recall many that I can speak of with any confidence without reviewing my records. I do recall one that was conducted in the Raleigh-Durham area many years ago?
Q. Do you recall what the station was there?
A. No.
Q. Do you remember being in a truck in Raleigh?
A. Yes.
Q. And did you have an antenna on a mask on that time as well?
A. Yes.
Q. Do you remember how high the antenna was?
MR. DEUTSCH: Well, I object to that question as ambiguous.

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BY MR. OLSON:
Q. You may answer.
A. I don't recall the height. The purpose of that measurement or test, as it were, was to determine the change that had occurred after the installation of a new antenna. But other than that, I don't recall any specifics of the project.
Q. Was this for the station's own purposes or was this for submission to the FCC or some other official body?
A. For the station's own purposes.
Q. The testing that you did of WTOG and another station in Florida, was that for the station's own purposes or for purposes of submission to the FCC or another body?
A. It was for submission to the station only.
Q. Have you ever done signal intensity measurements of a television station for submission to the FCC?
A. I'm sorry. I can't recall any incidents where it was for submission for the FCC.
Q. Do you recall whether anyone else in your firm has done signal intensity measurements of television stations for submission to the FCC?
A. I can't be certain. So I can't really answer that question.
Q. Do you have some recollection?
A. I recall many instances of making measurements.

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But I can't recall the exact purpose or the reason that the measurements were made. They were varying reasons for every measurement being made.
Q. Am I right that you do recall other occasions on which people with your firm have done signal intensity measurements of TV stations?
A. Yes.
Q. Which ones come to your mind right now?
A. The most significant one – the most memorable one that comes to my mind right now would have been for WSJV television. That's in Elkhart, Indiana.
Q. And what was the purpose of those tests?
A. To investigate an apparent performance problem at the station and then to determine the effectiveness of remedial action that had been taken to try to cure that performance problem.
Q. Was this something that the station was doing for its own purposes?
A. Yes.
Q. And not for submission to any governmental body?
A. Yes. As opposed to submission to the FCC, it was for its own purposes.
Q. And were you present when any of those test of WSJV were done?
A. Yes.

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Q. How were they done?
A. At the time they were done, which was a long time ago, the equipment was carried in the truck and an elevated mask was used to hold an antenna.
Q. Do you recall at what height the antenna was during the test?
A. Not precisely.
Q. Roughly?
A. It was at the maximum height of the mask where the mask was rigid. The purpose was to try to get above the trees that were along the road where we were making the measurements.
Q. Would your best estimate of the height of the antenna be 20 feet? 25 feet? 30 feet? 35 feet?
A. Once, again, I would have to estimate. Based on my recollection, it was between 20 and 35 feet.
Q. And were you using the same van for the tests in Indiana that you used in Florida?
A. No, not at all.
Q. When you were the tests in Florida?
A. I don't recall the exact date. But it's been more than five years ago.
Q. And when were the tests in Indiana?
A. Quite a bit earlier than that. Perhaps as many as twenty years ago.

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Q. I thought I heard you say, but correct me if I'm wrong, that you recall having done some signal intensity measurements of TV stations in the last five years. Did I get that –
A. I believe I probably have. I would have to check my records.
Q. Is there any occasion in the last five years that you can now recall in which you've done field testing measurements of a TV station?
A. No, I do not.
Q. Are you familiar with a section that's in Volume 47 of the CFR that has the number 73.686?
A. 73.686?
Q. Yes.
A. I'm familiar with that section generally but not as a specific citation.
Q. In general, what is the topic covered by Section 686?
MR. DEUTSCH: I don't understand the witness' answer. Could you read it back?
THE REPORTER: "Answer: I'm familiar with that section generally but not as a specific citation."
THE WITNESS: I'm familiar with section part 73 of the rules but not 73.686 was the number?
BY MR. OLSON:

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Q. Yes. Are you aware that Section 686 describes procedures for carrying out signal intensity measurements?
A. As I said, I am not specifically aware of what Section 686 says. I could review the FCC rules and find that section. And I probably would recall what it says having been familiar with the rules.
Q. Sure. To the best of your knowledge does the FCC set forth procedures for measuring signal intensity by taking measurements inside the homes of viewers?
A. Signal intensity measurements?
Q. Yes.
A. No.
Q. To the best of your knowledge does the FCC set forth procedures for conducting signal intensity measurements using hand held antennas at the height of 15 feet?
A. The purposes specified in FCC rules for taking signal intensity measurements do not deal with hand held antennas.
Q. Let me ask you to please take a look at Exhibit 2 for a moment. That's the Missoula field notes. And I wonder if you would turn your attention in particular to a page with the number at the bottom right-hand corner PTM 010014.
And I direct your attention towards the middle

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of the page. There's a line with a typed word description and then there's some handwritten notes there. Do you see that?
A. Of course.
Q. Could you just read what you believe those words to say into the record?
A. That's the line that's begin description? It's the preprinted word description and a space for a note. The note says in driveway approximately 100 feet north of road, approximately 500 feet south of house.
Q. Is it your understanding that -- you were in Missoula?
A. Yes, I was.
Q. Are these your own notes?
A. They are.
Q. These are notes from location No. 6 in Missoula; is that correct?
A. Yes.
Q. Did you do the field intensity measurements at location six in Missoula approximately 500 feet south of the subscriber home?
A. Yes.
Q. Let me ask you to please turn to the document that's been marked as Exhibit 3?
A. Before we leave this document --

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MR. DEUTSCH: You answered the question. If your answer is not complete, then complete your answer. Don't volunteer additional discussions.
THE WITNESS: Okay.
BY MR. OLSON:
Q. Did you have an additional observation about document PTM 010014?
A. No.
Q. Did you have another observation?
A. About?
Q. What was the observation that you were about to make?
MR. DEUTSCH: The witness is here to answer questions not to give you dissertations. I don't think it's appropriate to ask him what were you thinking.
MR. OLSON: No. I'm asking what he was starting to say.
BY MR. OLSON:
Q. You may answer.
A. What I was saying is that the line that's labeled description is preceded by an asterisks.
Q. Yes.
A. The asterisk above refers to a note that says due to prior, quote, traffic in house which is what the individual that I spoke to at this residence told me that

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they did not want measurements made in their house. So measurements were -- it says measure outside. So the measurements were made outside.
Q. Did the subscriber have company or something?
A. No. It said prior traffic in house. I don't know what he meant by that. That's why I put it in quotes because I wasn't sure what he was saying.
Q. But in any event, the testing was done about 500 feet south of the subscriber home at location six in Missoula?
A. We did not want to go onto his property. Right.
Q. Let me ask you if you would turn now to Exhibit 3 and ask you to take a look, if you would, at Page 10055. In particular, if you don't mind my leaning over, I'd like you to take a look at the handwritten words that have an arrow next to them in the middle of the page.
Could you just read those handwritten words into the record, please?
A. As best I can. This is not my handwriting. Let's see. Customer would or could -- would I believe -- not respond to calls to set the a-p-p-t period, appointment, I presume that means. Street test done instead. I believe that's what it says.
Q. And further down on the page, am I correct in reading it to say, quote: Observation of customer's antenna

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from street, unquote?
A. Yes. That appears to be what it says.
Q. Is it your understanding that at this location in Missoula which I believe to be location No. 3 that the testing was done on the street and not in the driveway of the subscriber's home?
A. Yes.
Q. And let me ask you to turn four pages further back in Exhibit 3. Again, do you see in the comments line towards the bottom of the page that it says, quote, observed from street?
A. I see that.
Q. And is it your understanding that the testing at location No. 4 in Fresno was carried out on the street and not in the driveway of the subscriber's home?
A. I see no reference to driveway. I just see the reference from street. So I assume that what was -- the person here has put down observed from street.
Q. My question is not only the observation of the household's antenna but is it your understanding that the testing that your engineers did for you was done on the street and not in the driveway?
A. What you're asking me to look at here does not deal directly with the measurement that was made. It's an observation. I'm uncomfortable in saying that this in

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itself says the measurement was made from the street.
Q. Let me direct your attention to the bottom of PTM 10059 where it says I believe, quote, customer refused inside test, unquote.
Does that make you more comfortable that the testing here was done on the street?
A. It makes me more comfortable that the testing was done outside the home.
Q. Can you think of any reason why your engineers would have observed the antenna only from the street and made their notes from the street if they had been able to get access to the home's driveway?
A. I would have to be guessing as to what actually occurred between --
MR. DEUTSCH: Don't guess.
THE WITNESS: I won't guess. But I'm saying to answer that I would have to guess what happened between Mr. Doty and the homeowner.
BY MR. OLSON:
Q. Let me ask you to look at Page 10087, please. And I direct your attention to the middle of the page. Do you read those words as I do, handwritten words to say, quote: Unable to get close to house, unquote?
A. Yes. Yes, I do.
Q. And does that lead you to believe that at

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location No. 11 in Fresno that the measurements that that your team made were made on the street?
A. Once, again, that one line does not indicate to me where the measurements were made.
Q. If they were, in fact, unable to get close to house as this line indicates and they did the measurements on the street, would that have been a violation of your instructions?
A. No.
Q. And in Missoula you did a measurement on the street; correct?
A. Can you tell me which instant --
Q. Let me say this. In Missoula you did a measurement 500 feet south of the house; correct?
A. Yes.
Q. Was that a mistake for you to do that?
A. No.
Q. Why not?
A. It was the closest practical location that we could get to the address.
Q. And at the location in Fresno where the note said street test done instead -- that's in quotes -- was it a mistake for the engineers working for you to do a street test?
MR. DEUTSCH: Just a moment. You said something

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that said street test done instead. Are you quoting?
MR. OLSON: Yes. I was quoting from PTM 010055 which says, quote: Street test done instead, unquote.
BY MR. OLSON:
Q. Did the engineers working under your direction in Fresno make a mistake by doing a street test instead at location No. 3?
A. No. They were following my directions.
Q. So you're not telling the court that the data that were gathered on the street at these locations are invalid?
MR. DEUTSCH: I don't know what you mean by invalid. I am going to object on that basis.
THE WITNESS: I had a more fundamental question about the question. There appeared to be a double negative.
MR. DEUTSCH: Let's wait. I'll object to it and Mr. Olson will respond and then you can answer a question.
BY MR. OLSON:
Q. As a professional engineer, you are comfortable reporting to the court the results that you or engineers working under your direction obtained on the street at locations in the Missoula and Fresno areas?
A. Yes.
Q. While we're looking at Exhibit 3, I wonder if you would take a look at Page 10051 for just a moment. I direct

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your attention, again, to the comment at the bottom right-hand side of the page. Would you just read that into the record as you read those words?
A. This was one is pretty difficult to read.
MR. OLSON: Let me just ask you. Did you get a chance to bring your originals of these documents? I had left Steve a message about that. I don't know if you got it.
MR. DEUTSCH: You asked for the originals of his field notes and he didn't bring those. That's what I understood your --
MR. OLSON: I'm sorry. I meant the field notes.
THE WITNESS: Let me tell you what I think I'm seeing: Customer refused to, looks like, investigate in hardware. Now it gets difficult for me to read. To -- the last --
BY MR. OLSON:
Q. Let me give you an interpretation and tell me whether this makes sense to you. To work with -- that's "W" slash -- weak signal?
A. That could fit.
Q. Let me direct your attention to your report, that is Exhibit 1, for a moment and to the table that is the last page of Exhibit 1?
A. Table 4?

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Q. Yes.
The page we were just looking at with the comment that we just read into the record, that was location No. 2 in Missoula; is that correct?
A. It's marked as No. 2 in the upper right-hand corner.
Q. And looking at Table 4 in Exhibit 1, your engineers measured the field strength outside or nearby the home at location No. 2 in Fresno as being 69 dBu; is that correct?
A. That's correct.
Q. And that's greater than Grade B intensity for that station; correct?
A. What channel is that --
Q. It's UHF.
A. Yes, it is.
Q. It would actually be above Grade B intensity for any kind of station, wouldn't it?
A. The U's are higher than all of these.
Q. But 64 is the highest Grade B number, right?
A. Sixty-four is the Grade B intensity for UHF stations.
Q. Let me direct your attention to your expert report, Exhibit 1, and in particular to Table 2 which I believe in this version is about four pages from the back.

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I direct your attention, Mr. Culver, to line No. 4 of Table 2. Do I correctly understand this table to indicate that at location No. 4 the engineers working under your direction measured the field strength of KPAX outdoors? Pardon me. You and engineers working with you measured the field strength of KPAX outdoors?
A. Correct.
Q. And you were using your own standard equipment and not the homeowners equipment; is that correct?
A. That's correct.
Q. And the signal strength that you measured was 83.2 dBu's; correct?
A. It's labeled as 83.2 dBu's slash "M."
Q. But that dBu slash "M" is what -- that unit is often called dBu's; correct?
A. Yes.
Q. And that's, for example, in the FCC regulation that describes 64 as being Grade B for a UHF station? That's in dBu units; correct?
A. It's dBu slash "M." It's dBu with the understanding that it's a field strength value. This is a direct field strength value.
Q. But the 83.2, we are judging against the No. 64 which is the minimum for this particular unit; correct?
A. Yes. Since they're both field strength, I

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usually can judge it that way.
Q. And a field strength of 83.2 is nearly -- strike that.
A field strength of -- strike that.
MR. DEUTSCH: If you're pressed for time, why don't you move on. You have the numbers. You can do your own arithmetic any time you want.
BY MR. OLSON:
Q. We have switched from KJEO to KPAX which is reason for my confusion for which I apologize. KPAX is on Channel 8; correct?
A. Yes.
Q. So the Grade B number for Channel 8 is 56; correct?
A. Correct.
Q. So the field strength of 83.2 that you measured at location No. 4 in Missoula, that's in arithmetic terms more than ten times stronger than Grade B intensity; correct?
A. Do you mean arithmetic in voltage ratio or comparing dB to dB?
Q. I mean, comparing field intensity to field intensity.
A. As in decibel terms or in arithmetic terms?
Q. In arithmetic terms.

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A. Yes. It is more than -- doing the equation or the calculations in my head --
MR. DEUTSCH: Just answer yes or no.
THE WITNESS: Yes, it is.
BY MR. OLSON:
Q. If you go up by 20 dB in this unit, that's at a ten time increment; is that correct?
A. Ten times voltage ratio with other assumptions.
Q. Let me now direct your attention to location No. 6 in Missoula. You also measured outdoors using your own standard equipment there; correct?
A. Correct.
Q. And you measured the signal strength there to be 102.2; is that correct?
A. Correct.
Q. And that's more than 100 times as strong as 56 dBu, the Grade B minimal; correct?
A. Correct.
Q. Now on Page 3 of your report, that is Exhibit 1, around the middle of the page, you say this and you can make sure I'm quoting this correctly, quote:
In two other cases, one where the off-air antenna system was suspected of malfunctioning, and one where only an indoor rabbit ear antenna was used, the temporary antenna was used to provide outdoor measurements and observations

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after the indoor measurements and observations were done, unquote.
Did I read that correctly?
A. Correct.
Q. Turning, again, to the tables at the back of Exhibit 1.
A. Table?
Q. Table 2. Am I correct that the two locations that you were referring to in the sentence that I just read are locations 11 and 13?
A. Correct.
Q. Have you read Mr. Cohen's supplemental expert report?
A. No.
Q. Now at location No. 11, Table 2 indicates that you measured 58.1 volts at the end of your transmission line from a standard receiving antenna; is that correct?
A. No.
Q. What is that 58.1 figure?
A. dBu.
Q. Okay. And given the particular equipment that you were using, can you convert that for me to a dBu/m figure?
A. No.
Q. What would it take for you to be able to do that?

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A. It would take a calibration of the equipment that was being used that is not available. As far as I know, it's not possible.
Q. Tell me what you mean by calibration of the equipment?
A. This may take a minute.
Q. That's fine.
A. The last column on Table 2 has to do with field strength measurements, measuring the field strength of the radio signal in the area.
The column preceding that labeled receiver input is just that. It is a measurement at the input of a receiver under test. It is not a field strength measurement. They are components between the receiver under test and the field, the signal in the air that would have to be calibrated that are not calibrated.
Q. In your report, you indicate that 49 dBu of receiver input is equivalent to Grade B.
Do you recall making a statement like that?
A. With clarification.
Q. Do you want to clarify that, please?
A. What I state is that the FCC determined in 1951 that a receiver input signal of 49 dBu -- decibels relative to one microvolt at the input of a receiver with input terminals of 300 ohms delivered a, quote, Grade B service

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quality picture. And that taking into account relevant factors and assume factors or typical factors at that time that it required a 56 dBu slash "M" signal level to generate that 49 dBu signal at the receiver to generate the Grade B quality service.
Q. Now, the 58.1 dBu that you measured at the bottom of your transmission line at location 11, is it fair to compare that with the 49 dBu number that you just mentioned?
A. 58.1 on Table 2, to compare that with the 49 that was just mentioned?
Q. Yes.
A. Being that they are voltage levels measured at the same location. Yes.
Q. 58.1 is 9.1 dBu above the 49 number that you just specified; correct?
A. Assuming 9.1 is the correct value, yes. It's dB. You'd have to leave off the "U" when you're comparing those two.
Q. Okay.
Do you have any reason to believe that the antenna that you used had 9 dB of gain more than the antenna that the FCC was assuming in 1951?
A. I have no idea as to what the gains might have been relative to what they used in 1951.
Q. What was the gain of the antenna that you were

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using?
A. I don't know.
Q. From your knowledge of the gains of antennas, what's the order of magnitude of the gain of that antenna?
MR. DEUTSCH: What antenna?
BY MR. OLSON:
Q. The antenna that you used at location No. 11 in Missoula.
A. I would have to just guess. But you say -- is that what you're asking me to do?
Q. What's your best estimate?
A. Channel 8 -- and this is a radio stacking antenna -- somewhere between two and four dB. As you say, it's a guess.
Q. And what's your understanding of the gain of the antenna that the FCC was assuming in 1951?
A. I would have to consult the documents on which this discussion appears, the FCC third report in order I thinks it's call. But it would have been in that magnitude, less than ten dB more than one.
Q. So the antenna you were using you believe to be roughly comparable in gain -- not radically different in gain from the FCC was assuming.
A. Not radically different would be a fair statement.

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Q. Given that, can you -- is it realistically possible to be measuring 58.1 dBu at the receiver input and to fail to have 56 dBu/m in the air where the antenna is located?
MR. DEUTSCH: Objection.
BY MR. OLSON:
Q. You may answer.
A. I have no idea. I cannot make that estimate. I would have to rely on measurements. I don't want to speculate as to what a gain or loss in the system might be.
Q. In order for 58.1 to -- for you to measure 58.1 and have less than 56 dBu/m in the air, there would need to be 9 dB of difference between your system and the FCC system; correct?
MR. DEUTSCH: Objection.
THE WITNESS: The levels would be different by 90. I have not done the math; you have. But there's a difference in level. That is all I can say.
BY MR. OLSON:
Q. 58.1 minus 49 is 9.1; right?
A. I'll accept 9.1. That's fine.
Q. Am I correct that there would have to be a difference in the antenna and transmission line systems of 9.1 between your system and the system the FCC was assuming in order to not get 56 -- to not have 56 dBu/m in the air

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at the location where the antenna is located at?
MR. DEUTSCH: Objection. The witness has already said he doesn't -- he can't tell you --
MR. OLSON: He can answer.
MR. DEUTSCH: Yes, he can. But you're really getting far afield just in speculation. I think the witness has already indicated he doesn't think he can do that.
MR. OLSON: Thank you for coaching the witness, Mr. Deutsch. I will ask you not to do that in the future.
MR. DEUTSCH: I'm repeating what the witness told you in his response to a question --
BY MR. OLSON:
Q. Mr. Culver, you may answer.
MR. DEUTSCH: -- not two questions ago.
THE WITNESS: I'm going to ask you to try to clarify or simplify your question because I didn't hear a clear question in it. It may have been lost in the preamble.
BY MR. OLSON:
Q. Sure. The FCC in 1951 said that if you have, with the antenna and transmission line system that they were assuming, if you have 49 dBu receiver input, that that would mean you had 56 dBu/m in the air at the antenna; is that correct?
A. That's correct.

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Q. So in order for -- if we accept what the FCC said as true and if you have 9.1 dBu of receiver input voltage hirer than the FCC said was the minimum needed to indicate 56 dBu/m in the air, then you can be confident that if you have 58.1 of receiver input voltage with your, dBu, with your antenna system that there must be 56 dBu in the air unless your system is losing 9.1 dB compared to the system the FCC has set?

MR. DEUTSCH: Objection. I'm not going to repeat the grounds.

THE WITNESS: If I can remember. Like I say, I cannot state what the relationship would be to the voltage measure at the output of our antenna system with the receiver to the field strength in the air. This is not a calibrated field strength, field intensity measuring system.

BY MR. OLSON:

Q. I'm going to direct your attention to location No. 13. Do you see that you've indicated that the receiver input voltage was 93.8 dBu there?

A. Correct.

Q. Can you take a look at the last four pages of your field notes from Missoula which is Exhibit 2, please?

A. Are you referring to 0028 to start with?

MR. DEUTSCH: If you could just do a page number.

BY MR. OLSON:

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Q. Certainly. 10030 through the end of the exhibit. Can you identify for me on those pages the source, either where the number 93.8 comes from or how it was calculated from a number on these pages?

A. 93.8 is the -- is listed as the receiver input voltage in dBu. The last two pages, Page 0032 and 0033, have to do with the supplemental test that was made on location 13. That was indicated in the text and this is the results that's reported here.

Q. Is the number 93.8, is it on the pages where you describe the supplemental test?

A. Yes, it is.

Q. Where it that number?

A. Do you see up at the top where it says "R" input and it has meter and it has 49 and after it the term mV is circled?

Q. Yes.

A. That is the value that was read directly on the meter.

Q. Is that a dBu number?

A. No, it is not. It is a voltage number that after taking into account the calibration of the meter and the measurement system, it's converted to 93.8 dBu.

Q. Let me just ask you whether you're confident that that is a receiver input dBu number as opposed to a measured

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field strength dBu/M?

MR. DEUTSCH: Could I?

THE WITNESS: Yes.

MR. DEUTSCH: -- have part of the question read?

THE REPORTER: "Question: Let me just ask you whether you're confident that that is a receiver input dBu --

MR. OLSON: I better start that question again. If you could let me finish the question before you --

MR. DEUTSCH: Allow the questioner to finish the question, allow me to object. Everybody else is finished, you speak.

MR. OLSON: Let me ask the question a different way.

BY MR. OLSON:

Q. How did you go from the 49 number to the 93.8 number?

A. By applying the conversion factors and calibration factors associated with converting from arithmetic millivolts to decibels.

Q. And how specifically do you do that?

A. Give me just a moment, please, to review what numbers were --

Q. Sure.

A. In this case, we have a value in millivolts which

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is an arithmetic value and it has to be converted to a logarithmic value. The formula in this case is 20 times the log of the ratio of -- the logarithmic is a base ten -- of the ratio of 49 to one plus 60. It's a conversion from millivolts to decibels relative to a microvolt.

Q. That sounds like measured field strength?

A. No. That's voltage.

Q. But you said decibels relative to a microvolt.

A. That's correct. Not a microvolt per meter, a microvolt. There is a vast distinction.

Q. If you wanted to -- if you knew the characteristics of the antenna and transmission line you were using, how would you convert from the receiver input volts in dBu to measured field strength in dBu/m?

A. You would apply the calibration information from the antenna used.

Q. So using some numbers that you think are realistic, can you just give me an example of how you do that?

A. I can't.

Q. I'll give you some numbers. 60 dB of gain for the antenna, 1 dB of loss for the transmission line.

A. I'm sorry. I'd have to take time to work that out with a computer. I'd have to be sure of my answer.

Q. I'm not asking you to give me a specific number,

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just walk me through how you do it?

A. You specified a gain for the antenna. You have not specified something called the antenna factor.

Q. What's a typical antenna factor?

A. At what frequency and what type of antenna? There are too many variables.

Q. For the Radio Shack antenna that you were using.

A. It is unknown. We can guess at it. You can guess all you want.

Q. Just give me a number that is a plausible number. I won't hold you to that.

MR. DEUTSCH: Wait a minute. I object to that. You're taking this man's deposition under oath and you certainly intend to cross-examine him on basis of this. So, of course, you're going to hold him to it.

BY MR. OLSON:

Q. No. What I want to know is with some illustrative numbers how you go about going from the voltage numbers to the measured field strength numbers. I'm not saying that these numbers have to be the right ones for any system. I just want an illustration.

A. Hypothetical, let's work from the field in space impinging on an antenna. Depending on the frequency involved, an antenna is made to a certain size to work best with the frequency involved. Depending on the size of the

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antenna which is dependent on the frequency, the antenna has what is known as an antenna factor.

The antenna factor is, simplistically put, a ratio of its size to the wavelength of the signal that's impinging on the antenna which is determined by frequency. That is one of the calibration factors that has to be considered.

Then in addition to that you can consider the antenna losses and the system losses and the transmission line loss. That antenna factor is a number that's determined by, for calibrated instruments, by putting the antenna into a known calibrated field and measuring the response of the antenna. It varies with the frequency.

Adding extra elements to the antenna -- directors, reflectors -- what I was talking about previously was a reference for a standard dipole antenna. Adding extra elements to the antenna changes its gain and modifies its directional pattern. That also affects what voltage the antenna will supply as an output voltage.

Q. Do I correctly understand that if you have an antenna system whose characteristics you do not know, you cannot determine the field intensity in the air simply by knowing the dBu receiver input voltage?

A. We can approximate it, stating the basis for the approximations. But we cannot know precisely unless we

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subject the antenna to a calibration test.
Q. And are you prepared to make an approximation of the field strength in the air at location No. 11 based on the 58.1 dBu that you measured at the end of the transmission line from your standing antenna?
A. Not for that location.
Q. Are you prepared to do that for any location?
A. Not for any of the locations in Missoula.
Q. Are you prepared to do that for any location in Fresno?
A. An approximation, yes.
Q. And why the difference between Missoula and Fresno?
A. Because the Missoula antenna had one of the missing parameters that is needed to make an approximation of that value.
Q. I'm sorry. You have more information about the antenna and transmission line in Fresno than you do about the antenna and the transmission line in Missoula?
A. Yes.
Q. Is that another way of saying that in Missoula you do not have what you consider to be reliable calibration data but in Fresno you have somewhat reliable calibration data? Is that fair?
A. No. It's not fair.

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Q. Tell me why it's unfair?
A. We have missing in Missoula one critical piece of information that is present in the Fresno data that allows for an approximation of the antenna system and that is just plain missing in Missoula.
Q. What is that critical piece of information?
A. The antenna gain relative to a reference to dipole antenna.
Q. Do I understand correctly that if you do not know the antenna gain of a particular antenna compared to a dipole antenna, that you cannot provide an estimate you feel comfortable with about what the strength is in the air based on the receiver input volts at the bottom of a transmission line?
A. I believe I follow your question. Can you restate it.
Q. Let me, indeed, take your suggestion, Mr. Culver, and rephrase the question.
If I come to you and tell you that I have measured 50 dBu of receiver input voltage at the bottom of a transmission line from a particular antenna, what do you need to know in order to be confident that you can assess the field strength in the air where the antenna is located?
A. The purpose is to determine the field strength in an area.

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Q. The field strength around the antenna?
A. I need to know all of the losses and gains in the system between the instrument that you're using, the type of instrument -- that's calibration -- the methodology that you used and the particulars of the antennas used including its gain and antenna factor.
Q. And if one had a real world antenna as opposed to an antenna that you had just hooked up for a test that you were doing as a professional, what kinds of losses and gains might occur?
A. In each part of the system?
Q. If you could take me through the different parts about what the losses and gains are that might occur.
A. Transmission line loss would be dependent on the type of line, the frequency and the length of the line. It might be a dB or two. Any matching components you have may have some measurable loss.
The antenna gain is dependent upon the frequency, the number of elements and their array and the voltage induced in the antenna elements by the field that it's immersed in is dependent upon the antenna factor for the elements that are sensitive at the frequency of the site of your antenna.
Q. Would it be relevant to know whether there was a twin lead as opposed to a coaxial cable.

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A. That, in itself, might not be relevant but it would be nice to know because you might check a couple of other things regarding the twin lead versus the coaxial cable.
Q. What things would you check?
A. The twin lead hasn't been used for a very long time and you may suspect that it is improperly routed or has not been maintained.
Q. What about the presence or the absence of a balun?
A. That is one of the elements within the system that I said you need to account for losses. Matching elements, I think, is the term I used.
Q. Not being an engineer, do I correctly understand that if you put together elements that are operating at different frequencies -- if I'm using the wrong term, you correct me -- that there is such a thing as a mismatch that can result in the loss of signal strength?
A. There can be, quote, mismatches in the system that can result in the loss of signal strength?
Q. What is an example of a mismatch?
A. Mismatch impedance in a system.
Q. And is that ohms?
A. Gains is expressed as ohms.
Q. What's a real life example of how you might have

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a mismatch in impedances?
A. I just have to create an example of somebody not using the right components.
Q. If a transmission line has been bent -- strike that.
If a coaxial transmission line has been sharply bent, could that result in a loss of signal strength?
A. It may or it may not.
Q. But it could under some circumstances?
A. It could under some circumstances.
Q. What about if the antenna has lost some of its elements, would that make a difference for your purposes?
A. It could under some circumstances.
Q. If you were trying to figure out the field intensity in the air from a dBu figure at the bottom of the transmission line, would you want to know what direction the antenna was pointed relative to the station?
MR. DEUTSCH: Could I have the question read back.
THE REPORTER: "Question: If you were trying to figure out the field intensity in the air from a dBu figure at the bottom of the transmission line, would you want to know what direction the antenna was pointed relative to the station"?
THE WITNESS: If that were your purpose. In

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general in this case it's not the purpose to determine the field strength in the air based on the consumer's antenna. There are too many variables to account for.
BY MR. OLSON:
Q. Let me see if I understand you. That, because there are so many variables that you don't know about the consumers' antennas, you are not trying to make assessments of the field intensity in the air at the location of their outdoor antenna?
A. Not using the consumer's antenna.
Q. In those instances in Fresno and Missoula where you were doing measurements with the consumer's antenna, you are not providing as part of your expert testimony figures for the field strength in the air at those locations; is that correct?
A. I think that is correct.
Q. That is --
A. I'd like to go over that question one more time.
Q. Let me try it again.
In Table 2, for example, for all but two of the locations you have receiver input volt figures but not measured field strength numbers; correct?
A. Correct.
Q. Am I right that the blank, the 11 blanks under measured field strength reflect the fact that you are unable

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to translate the receiver input volts into measured field strength because you do not know the characteristics of the household receiving systems?
A. That's correct.
Q. Do you have an opinion about the field strength in the air at any of the locations in Missoula or Fresno at which you or engineers working under your directions did only inside measurements?
MR. DEUTSCH: Can I have the question again?
THE REPORTER: "Question: Do you have an opinion about the field strength in the air at any of the locations in Missoula or Fresno at which you or engineers working under your directions did only inside measurements?"
THE WITNESS: I can form an opinion.
BY MR. OLSON:
Q. Have you formed an opinion?
A. I believe I've stated an opinion.
Q. In your report?
A. Yes.
Q. Can you just read to me what you're referring to?
A. The idea is woven into the observations and conclusions.
Q. On what page?
A. Page 6.
Q. Of Exhibit 1?

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A. Exhibit 1.
Q. Can you just read me the opinion that you're referring to?
A. I'll read you several sections of this observation and conclusions which will form the opinion.
In several cases the receiver location were clearly behind terrain obstruction and the direct signal was blocked. The resulting low signal level produced reception that was then characterized by severe noise among other defects. That was two sentences.
At receiver locations in the open, in valleys or close to the transmitter with good line-of-sight propagation, the received signal was significantly higher.
So the conclusion there is that in Missoula the signal level was quite variable because of terrain in the area, the mountainous terrain.
Q. I think we're not communicating with each other. Let me take another try at it.
Let's take, for example, location No. 10 in Missoula. If you'll, take a look at your table No. 2, please?
A. No. 10. Yes.
Q. You measured 32 receiver input volts at that location; correct?
A. 32 dBu, decibels relative to one microvolt.

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Q. Do you know what all the losses and gains are in the antenna system that the homeowner had at location No. 10?
A. Are you asking me if I have applied a number of decibels to that loss or gain figure?
Q. No. I'm asking you whether you know all of the losses and gains in the homeowner's antenna system and transmission line at location 10 in Missoula?
A. No, I do not.
Q. Do you know the antenna factor for the antenna at location No. 10?
A. No, I do not.
Q. So can you tell me with confidence what the field strength and dBu/m is at location No. 10 in Missoula?
A. No, I cannot.
Q. And is the same true for location No. 1?
A. The same is true for every location, the way you have asked it, that is, not reported as a field strength measurement.
Q. And you cannot determine from the inside dBu numbers for the 11 homes in Missoula where you did only indoor measurements what the field strength in the air at the antenna level is; correct?
A. I cannot specify in a value in dBu.
Q. You cannot specify it in the value that -- can

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you specify it in dBu/m?
A. No, nor dBu/m.
Q. So in plain English, for the 11 locations in Missoula at which you did only indoor measurements, you do not know what the signal intensity in the air is above those homes; correct?
A. Correct.
Q. And in Fresno there were a couple of homes where your engineers were able to do inside measurements; correct?
A. Table 4?
Q. Correct.
A. There are two.
Q. And at those homes for the same reasons, you do not know what the signal intensity is in the air above those homes; correct?
A. We did not attempt to calculate the signal level at those locations. That's correct.
Q. And you cannot calculate it from the data that you collected; correct?
A. It was not the intention to calculate it from the data that was collected.
MR. OLSON: Could you just read back the prior question, please.
THE REPORTER: "Question: And you cannot calculate it from the data that you collected; correct?"

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BY MR. OLSON:
Q. Could you answer that question, please?
A. No, I cannot. It was not intended to be calculated.
Q. Take a look, again, at Table 2, please, of Exhibit 1. There are two locations in Missoula at which you can provide the court with reliable information about the signal intensity in the air at the location of the outdoor antenna; correct?
A. There were two that were measured. Yes.
Q. And at one of those, the signal was more than ten times Grade B intensity --
MR. DEUTSCH: You've already asked this question and we've covered that specific point. For somebody who's claiming about have enough time, it's odd.
MR. OLSON: This is taking much more time to hear your objection.
BY MR. OLSON:
Q. Do you recall the question?
A. I recall the previous question and I recall answering it.
Q. At the two locations in Missoula at which you can confidently give testimony about the field strength in the air, both of those were far above Grade B; correct?
A. They both exceed Grade B.

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Q. By at least a factor of ten?
A. I believe our previous discussion on this matter did establish that ten was one of the factors.
Q. And if we turn to Table 4 --
A. Yes.
Q. There are twelve locations there at which you conducted outdoor signal intensity measurements; correct?
A. That outdoor signal intensity measurements were conducted. Yes.
Q. Pardon me. The engineers working under your direction did that; right?
A. That's correct.
Q. And this is KJEO which is a UHF station I believe we've previously established?
A. Correct.
Q. At location No. 2 you measured a -- pardon me -- your engineers measured a signal of greater than Grade B intensity; correct?
A. That's correct.
Q. And the same is true of location No. 3; correct?
A. That's correct.
Q. Now these measurements were done at a height of 15 feet; right?
A. I believe that's correct.
Q. If they had been done instead at a height of 30

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feet, what is your best estimate of the difference that would have made in terms of measured field strength?
A. There would have been an increase in measured field strength.
Q. What's your best estimate of the increase?
A. I believe it's stated in the report.
Q. Does 6 dB sound like the number you recall --
A. I believe 6 dB is the number that was stated in the report.
Q. So, for example, at location No. 4 am I correct that your best estimate is that if you had tested it at 30 feet rather than 15 feet that the measured field strength would have been 69 rather than 63?
A. If the 6 dB is correct and if the measurement was made at that height is correct, there are other factors. It was not measured at 30 feet. It was measured at 15 feet.
Q. Do you want to just check Page 9 of your report. Let me just read you what I see there and you tell me if this sounds right.
A suitable UHF antenna factor adjustment from 30 feet to 15 feet above ground level is minus 6 dB; correct?
A. That's correct.
Q. That means that you're expecting 6 dB less at 15 feet than at 30 feet?
A. On the average, yes.

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Q. So on the average applying that average figure at location No. 4, you would expect to find 69 dBu at 30 feet; correct?
A. We've introduced the concept here. On the average the difference may be 6 dB. But at any one particular location it's liable to be something other than that. If we're talking about an average of a lot of locations, the 6 dB is a suitable correction factor. If we apply 6 dB to the number reported for that location, it's 63 plus 6.
Q. And at location No. 5 going through the same procedure, it would be 61 plus 6 or 67; correct?
A. If we applied the average 6 dB figure, you can add it to every one of those.
Q. So that if we make those adjustments, then our estimate would be that at locations four and five that there would be a Grade B intensity signal at 30 feet; correct?
A. That is not the value that was measured by my crew. And you're asking me to comment on some newly now created values. If you make those adjustments, then the values would be in excess of 64.
Q. But it is your view, is it not, that a suitable UHF antenna factor adjustment from 30 feet to 15 feet above ground level is minus 6 dB; correct?
A. That's correct.

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Q. But in terms of the actual measurements you made at 15 feet, am I correct that there are three locations -- No. 2, No. 3 and No. 13 -- where your measurement at 15 feet was greater than Grade B intensity?
A. Those were numbers two -- what were the others?
Q. Three and thirteen.
A. Those three are greater than 64.
Q. So they are greater than Grade B intensity?
A. Yes.
Q. And I'm referring to Table 4 in Mr. Culver's expert report which is Exhibit No. 1.
Now whenever you did outdoor measurement or your engineers did outdoor measurements, they did them with an antenna at 15 feet; is that correct.
A. That's correct.
Q. How did you choose the height of 15 feet?
A. It was a height that was appropriate for the task at hand for several reasons. It could be conveniently carried in a vehicle to locations. We constructed a collapsible mask. It could be maneuvered by hand close to the antenna, as close as practicable as we were permitted to get. It was also quite close to the height seen at some of the locations in the areas of the test.
Q. You went to Missoula but not to Fresno; is that correct?

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A. That's correct.
Q. Let me just ask if you'd take a look at the Fresno field notes which are Exhibit 3, please?
A. Okay.
Q. Let's just take a look at the antenna heights in Fresno, if you would. First, take a look at the very first page of Exhibit 3 which is 10048. Do you see that?
A. Right.
Q. And do you see that Mr. Doty's crew recorded a height of 25 feet above ground level?
A. Yes.
Q. And then if you turn to page -- I'm going to refer to the page numbers just in terms of the last two digits for simplicity. Fifty-one?
A. Yes.
Q. You see there was just a table top antenna there?
A. Yes.
Q. And 55, do you see there was a 35-foot antenna there?
A. Yes.
Q. And 59, do you see there's an indication pole?
A. Yes.
Q. Without any specific above ground level figure?
A. Yes.
Q. And do you see, if you look at Page 63, that the

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antenna was 28 feet above ground level?
A. Yes.
Q. And do you see on location No. 6 that there was no rooftop antenna?
A. I'm sorry. What page number is that?
Q. Page 67. I'm apologize.
A. 67? Right. You said no indication of an antenna?
Q. Right.
A. Yes.
Q. And the same is true, if you look at Page 71, for location No. 7; correct?
A. Yes.
Q. And if we look at location No. 8, Mr. Doty or his crew wrote down pole without writing down a specific above ground level height; correct?
A. Correct.
Q. And the same is true at location No. 9 which is at Page 79?
A. Correct.
Q. And location No. 10, do you see that Mr. Doty indicated a 30-foot pole?
A. That's page 0083?
Q. I apologize. Yes.
A. That's describing the amount not the height.

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Q. Do you believe that antenna could be lower than 30 feet above ground level?
A. It could be no hirer than 30 feet above ground level.
Q. Could be --
A. Could be no higher than because --
Q. Right. But could it possibly be lower than 30 feet above ground level?
A. Possibly, yes.
Q. If it has a mount from an underground location?
A. No. The antenna does not have to be at the top of the pole.
Q. Is it typical for people to put an antenna below the top of a pole.
A. Yes.
Q. Do you know what height the antenna was at location No. 10?
A. No.
Q. Do you have any reason to believe it was lower than 30 feet?
A. I have no idea what the height was other than it could not be above 30 feet.
Q. Could not be above 30 feet?
A. It could not be above 30 -- it could not be higher than the height of the pole, I assume.

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Q. If the pole were on top of the house, it could certainly be higher than 30 feet, could it not?
A. It does not say that the pole was on top of the house.
Q. But it could be on top of the house; right?
THE WITNESS: Can I object?
BY MR. OLSON:
Q. I'm asking you whether --
A. No, it cannot.
Q. Why could a 30-foot pole not be on top of the house?
A. Let's see if there's any supporting evidence elsewhere in the document that says where the pole is.
Q. Sure. Let's take a look at location No. 12 on Page 91, please?
A. Ninety-one? Yes.
Q. Do you see that Mr. Doty indicated there's a 30-foot pole and that the antenna was 45 feet above ground level?
A. Yes.
Q. Does that suggest to you that the pole was on top of the house?
A. It suggests to me it was on something. I don't know if it was on the house or where it was. I was not here. We could attempt to determine the answer to these by

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perhaps looking at photographs that were taken.
Q. We may have time to do that. But this document No. 91 in Exhibit No. 3 certainly indicates that there was a 30-foot pole and that the antenna was 45 feet above ground level; correct?
A. It indicates that there was a 30-foot pole and the height of the antenna is listed as 45 feet AGL.
Q. If Mr. Doty recorded these data accurately and applying your common sense, that means that the pole has to be on top of something; right?
A. It has to be on something.
Q. Which might be the house, for example?
A. It might be the house, for example.
Q. When we go back to location No. 10 which is Page 83, that 30-foot pole might not be on top of something else; correct?
MR. DEUTSCH: He can answer the question.
THE WITNESS: I have no way of saying because there is only one height given, that of the height of the pole. There is no height above ground level associated with it.
BY MR. OLSON:
Q. I'm asking whether you can rule out that this 30-foot pole is on top of something?
A. I can't rule out it being anywhere.

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Q. If you go to location No. 11, do you see --
A. What page?
Q. Page 87?
A. Okay.
Q. Do you see it says no off air visible and antenna unable to view?
A. Yes.
Q. So we don't have any above ground level data there?
A. Yes.
Q. We previously talked about Page 91 which indicated 45-foot above ground level; correct?
A. Yes.
Q. And location No. 13 at Page 95, you see that there is an indication of a 12-foot pole?
A. Yes.
Q. And location No. 14, do you see that there's an indication on Page 99 of an 8-foot pole?
A. Yes.
Q. In your view was it fair when you were at -- pardon me -- when your engineers were at location No. 3 in Fresno where your engineers indicated an antenna height of 35 feet, was it fair in your opinion to measure the signal intensity at 15 feet?
A. Yes.

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Q. Tell me why?
A. Because it would have been impossible to measure at 35 feet in the location where the homeowner's antennas was assuming that perhaps it was on the house or if it was close to the house.
The reason for making the measurements required us to have some type of convenient transportable, correctable method to support an antenna and to reconstruct something on the order of 30 or 35 or 45 feet or whatever height you want to go up to become unreasonable.
Q. So in your view it was fair to do a signal intensity measurement at a height 20 feet lower than the height of the actual household antenna at that particular location?
A. Considering all of the factors, yes.
Q. I take it that your answer would be the same for location five where you tested at 15 feet and the actual household antenna is 28 feet?
A. Yes.
Q. At location No. 3 in Fresno, where you measured 87 dBu/m in --
A. Page?
Q. I'm looking at Table 4 of Exhibit 1. I apologize.
A. Okay. Location number what was it?

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Q. No. 3. At that location you measured 87 dBu/m of field strength at 15 feet; correct?
A. Mr. Doty's crew made a measurement and I converted that measurement to dBu and it's reported at 87.
Q. I apologize. These numbers -- are these, in fact, dBu/m?
A. Using the method that's described in the report based on the measurements that Mr. Doty made because he used the same equipment at every location, a conversion was made and arrived at 87 dBu/m.
Q. I'm asking the question only because the headings of the two tables are different and I take it that we could simply add an over "M" to the top of the right-hand column in Table 4?
A. To be totally correct the way they're reported, that's correct.
Q. I just wanted to clear that up. So I apologize for repeating myself.
Your engineers measured 87 dBu/m of field strength at 15 feet at location No. 3 in Fresno; correct?
A. Correct.
Q. What dBu/m of field strength would they have measured at 35 feet?
A. I don't know.
Q. Do you have an estimate?

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A. It would have been different.
Q. And is it your best judgment that it would have been more likely higher or lower?
A. More likely higher.
Q. And using the same principles that lie behind the 6 dB difference between 15 feet and 30 feet, what would be your best estimate on average on what the difference would be between 15 feet and 35 feet?
A. At this location?
Q. Yes.
A. I don't know because we are not talking about an average -- remember, we had this discussion about average. This is one particular location. It could be higher. It could be lower.
Q. What would be your average of the differences between 15 feet and 35 feet not as to this particular location but in general?
A. I have made know estimate of that difference.
Q. Would you expect it to be more than 6 dB; correct?
A. You're reaching a diminishing return and it may be more than 6 dB. I'm not sure by how much.
Q. You would certainly not expect it to be less than the figure that you specified for the difference between 15 and 30, would you?

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A. On average?
Q. Yes.
A. No.
Q. On average you'd expect it to be some what greater, right?
A. It may not be measurably greater over only 5 feet. It may be calculably greater. But what I'm saying is that I'm not certain what the difference would be.
Q. But on average, you would not expect it to be less at 35 feet than at 30 feet?
MR. DEUTSCH: On average?
MR. OLSON: That was the question.
THE WITNESS: 35 feet than 30 feet?
BY MR. OLSON:
Q. Yes.
A. On average over a large number of locations, I would expect it to be greater than less.
Q. Let me go back to Exhibit No. 3 for just a moment. I direct your attention to Page 55 in that exhibit. I notice towards the bottom left of the page that there's in your forum you had the words rotor printed in and then one could check either yes or no. And at that particular location Mr. Doty checked yes; correct?
A. There's an X next to the Y.
Q. What do you understand that to mean?

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A. He observed a rotor at the location.
Q. What is a rotor?
A. A mechanical device for rotating the orientation of an antenna.
Q. And, if you will, take a look at Page 63. Do you see that Mr. Doty observed a rotor there as well?
A. Yes.
Q. And if you take a look at Page 71, do you see that Mr. Doty observed a rotor there as well?
A. Yes.
Q. And also observed a rotor at the location described at Page 79?
A. Yes.
Q. And the same at location described at Page 83?
A. Yes.
Q. And the same at location described at Page 95?
A. Yes.
Q. And also at Page 99?
A. Yes.
Q. And do you recall that at some of the locations in Fresno there was no rooftop antenna?
A. Yes.
Q. So the observation about presence or absence of a rotor would not be applicable when there was no rooftop antenna; is that correct?

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A. It's an observation of what existed.
Q. Does it make sense to talk about a rotor with a rabbit ear antenna?
A. If a rotor existed at the outside location, they were requested to report that fact. If no outside antenna was hooked up to it, that is another fact that was reported.
Q. Sure. But my point is that it doesn't make sense to talk about the presence or an absence of a rotor if one, for example, doesn't have any antenna at all or has only a rabbit ear antenna?
A. It does make sense to talk about the presence or absence of a rotor.
Q. In connection with a rabbit ear antenna?
A. No. In connection with being thorough about reporting what you discovered at a location that's being tested.
Q. How much does a rotor cost?
A. They're moderately expensive. Often more than the cost of the antenna.
Q. Roughly, how much?
A. I'd say at least $50 and can go up to several hundred dollars.
Q. When were you last in the market for a rotor?
A. Approximately ten years ago.
Q. When you were in Missoula, did you estimate the

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heights of the household antennas by eyeballing them or by some more technical method?
A. They were measured.
Q. They were measured by what means?
A. An optical baseline range finder, an optical measuring device.
Q. And did the engineers in Fresno do the same thing?
A. I don't know what instrument they used or how they determined the height of the antenna.
Q. Do you know whether they used an instrument as opposed to estimating based on eyeballing it?
A. I don't know what method they used.
Q. Did you direct them to use any particular method?
A. I directed them to determine as best they could the height of the antenna.
(Culver Exhibit No. 4 was marked for identification.)
BY MR. OLSON:
Q. Let me ask you, Mr. Culver, what is Exhibit 4?
A. It's a handwritten note.
Q. Are these your handwritten notes?
A. Yes, they are.
Q. And do these reflect conversations that you had with lawyers at Foley, Hoag & Eliot?

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A. I believe, in part, they do.
Q. And those conversations were sometime in March of this year?
A. It appears that way. Yes.
Q. And five lines down on Exhibit 4, I read that to say: 15- to 20-foot high houses. Do you see that?
A. Yes, I do.
Q. What does that note refer to?
A. It probably refers to a thought that was taking place at that time regarding how high the houses would be.
Q. Whose idea was it, if you recall, to pick 15- to 20-foot high houses?
A. I'm not even sure that this means to pick 15- to 20-foot high houses. As I said, it probably indicates a thought that was under discussion or contemplation at that time. I'm not sure that it's a decision to do something or direction to do something.
Q. What's your best understanding of what that note does mean?
A. It means that we discussed how high the houses might be, how high the antennas on the house might be and, therefore, how high will we have to build an antenna to equal those heights.
Q. Further down the page, do you see where it says on the left-hand side 3-17?

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A. Yes.
Q. This was apparently notes from a conversation on St. Patrick's Day?
A. I guess.
Q. And do you see there it says Rick Brunell, new ideas?
A. Yes.
Q. And then the first arrow under that says houses with functional antenna; correct?
A. Sorry to say, this is my own writing. I'm having trouble antenna. It looks like an "H" but it's probably antenna.
Q. And then after that it says indoor only?
A. Equal side, indoor only.
Q. And then below that it says without incident fields measure, something like that?
A. Yes.
Q. What do you understand that note with the arrow next to it to mean?
A. If there are houses with functional antennas, to make measurements indoors. Under those circumstances, do not try to make incident field measurements outside.
Q. And did Mr. Burnell tell you why he would not want you to make incident field measurements outside?
MR. DEUTSCH: Objection. I don't think there is

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evidence that Mr. Burnell told him that at all.
BY MR. OLSON:
Q. Why did you make this note?
A. This note is the result of ideas that were being discussed or contemplated on 3-17.
Q. In fact, as you carried out this project, you actually did do indoor measurements only when you could; correct?
A. That's correct.
Q. And you did not make field strength measurements at those locations where you were able to do indoor measurements; correct?
A. That's correct.
Q. And my question to you is what is your understanding about the reason for not doing outdoor field strength measurements at those locations where you could do an indoor measurement?
A. Because we had access to the information that we needed for the purpose of the measurements, to determine the reception at the location.
Q. Were you aware that -- have you read any of the expert reports that Prime Time 24 has commissioned from other engineers in other cases?
A. I probably have.
Q. Have you read the report of an engineer retained

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by Prime Time 24 lawyers about some testing in Amarillo?
A. I don't recall Amarillo.
Q. How about Raleigh?
A. I'm not sure. Raleigh, North Carolina?
Q. Yes.
A. I don't recall.
Q. Do you know Robert Weller?
A. I know the name. I don't think I've ever met him.
Q. Do you remember reading a report by Mr. Weller?
A. I believe I may have.
Q. I will represent to you that Mr. Weller did some testing down in Raleigh. And I will further ask you to assume as correct that down in Raleigh he did both indoor measurements and outdoor field strength measurements.
Do you have an understanding about why Prime Time 24 wanted to, if you assume what I just told you is correct, why Prime Time 24 lawyers wanted you to vary from what Mr. Weller had done in Raleigh?
MR. DEUTSCH: Objection. I don't believe there's evidence that Prime Time's lawyers want him to vary.
BY MR. OLSON:
Q. You may answer.
A. The question was why they asked me to vary?
Q. Yes.

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A. I don't believe they did. I believe we had a mutual discussion on what was practical, what was possible and what I felt would be necessary to establish or to conduct the task at hand to determine whether or not the households had service.
Q. Would it have been possible for you to do outdoor field strength measurements at each of the locations that you or your engineers visited?
A. Probably.
Q. That is, you did outdoor field strength measurements at a number locations, you or your engineers; correct?
A. I did two.
Q. And the engineers from Fresno did twelve; correct?
A. They were able -- not able. They were not very successful gaining access to the residence, the interior.
Q. They could have at those locations where they did indoor measurements, they could have also done outdoor measurements; correct?
A. I would be presuming what they found at that location. In general, I would think that they would have been able to do outdoor measurements somewhere.
Q. At every location at which they wanted to do outdoor measurements, they were able to do it; correct?

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A. Yes.
Q. So you don't have any reason to doubt that they would have been able to do outdoor measurements at least on the street at any of these locations; right?
A. I don't know if they rejected any locations totally that they couldn't make measurements at. I only know what they reported to me. They reported to me the successful locations where they made measurements.
Q. Have you read any report that has been submitted by Jewels Cohen in any case against Prime Time 24?
A. I'm not sure. Is there a particular city you had in mind or location? I may have. I'm not sure.
Q. Let me go through them. Mr. Cohen prepared a report that was filed in March of 1997 that would have been available to you in theory, whether or not you actually saw it. But it would physically have been available at the time you prepared your expert report.
Do you remember seeing that report which among other things described some testing in Miami?
A. I'm not sure. I believe I've seen a report but I'm not sure if it was Jewels' report or if it was Miami. I would have to check.
Q. Did you review any reports by Mr. Cohen in the last few days in preparing for this deposition?
A. I did not.

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Q. When is the last time that you recall seeing any report by Jewels Cohen relating to Prime Time 24?
A. If at all it would have been months ago.
Q. Were you aware that Mr. Cohen arranged for certain measurements to be conducted near the homes of approximately 100 Prime Time 24 subscribers in the Miami area?
A. I am not privy as to how many were measured. I just was aware that it was mentioned that other firms were also making measurements.
Q. And have you gone to any of the locations at which Mr. Cohen made measurements or his engineers made measurements in Miami and done your own measurements?
A. No.
Q. For any of the measurements that have been done under Mr. Cohen's direction, have you gone to any of those locations and arranged for your own measurements?
A. No.
Q. Other than the 27 sites that are described in your expert report, have you, yourself, or have people under your supervision conducted any other measurements of signal intensity at or near the locations of Prime Time 24 subscribers?
A. No.
Q. And if I ask that question with regard to not

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signal intensity but any other kind of measurement, would your answer be the same?
A. It would.
Q. Do you know about any measurements of any kind whether signal intensity, picture quality or otherwise that anyone has done other than you or people working under your direction or Mr. Cohen or people working under his direction at or near the locations of Prime Time 24 subscribers?
A. When you say know of, do you mean am I aware that others have made measurements?
Q. Yes.
A. Yes.
Q. Tell me what other measurements you know about?
A. I just know that others have made measurements. I would have to see what information I have on any specifics that were provided to me.
I don't have any recollection other than discussing with the attorneys saying that others were making measurements. They had asked me to make some measurements earlier in which there was a time conflict. They said they had gotten others to do that. I asked who the others were. I believe they told me but I don't recall who the others were at that location.
Q. Do you recall their discussing other measurements being made in Fresno or Missoula?

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A. Other measurements?
Q. Other measurements than the 27 -- other than the measurements that you made at the 27 locations in Fresno or Missoula?
A. Measurements, no. I don't recall any other measurements made like we -- I had assumed that we were the only ones that were making this time of measurement in Fresno and Missoula.
Q. Do you know whether Prime Time 24 had anyone go to those locations in advance of your going there and make any observations or measurements?
A. I know that there had been some contact by representatives of either Prime Time 24 or the station because when I contacted the people to gain access, to set up a time, there were some comments about, oh, other people were here. I don't know specifically what was done or anymore than that but just that casually at least in Missoula where I was talking to people they had expressed, oh, others had been there.
Q. And was it your sense that others had been there in the recent past?
A. Recent meaning last, perhaps, month or 60 days or something like that. Yes.
Q. Do you remember anymore detail about any of those conversations?

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A. No.
Q. About what the people who had visited had done when they were there?
A. These were just very random mentions about other incidents. And the task at hand was to set up a time to gain entry to their house to observe whether or not they had a signal.
Q. Other than with respect to those locations in Missoula and Fresno at which you or your engineers conducted outside signal intensity measurements, do you have any opinion about the signal intensity available in the air near the locations of any other Prime Time 24 subscribers?
A. No.
Q. Let me tell you -- and Mr. Deutsch will correct me if I get this wrong -- that in this lawsuit there are five particular stations that are among the plaintiffs. And those stations are located in Miami; in Indianapolis; in Jacksonville, Florida; in Missoula and in Fresno.
Do you recall being told that before?
A. No.
Q. I believe Mr. Deutsch will not contradict me or he'll tell me if I've gotten that wrong.
Are you generally familiar with the terrain of different areas of the United States?
A. Yes.

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Q. Of the five cities that I just mentioned or markets that I just mentioned, which two have the roughest terrain?
A. Missoula and -- what were the others.
Q. Miami, Jacksonville, Indianapolis, Fresno and Missoula.
A. Fresno is moderately rough. It's in the San Joaquin Valley.
Q. Of the five stations that are plaintiffs in this case, the two locations at which you did tests are the two that have the roughest terrain among those five stations; correct?
A. Apparently.
Q. Who selected Missoula and Fresno as opposed to other markets?
A. The attorney.
Q. And who selected the 13 locations that you visited in Missoula?
A. We received a list. I assume it came from the attorneys.
Q. And the same is true for the list in Fresno?
A. I assume that. The list went directly to the crew rather than through me.
MR. OLSON: If you want to take a break, that would be fine with me.

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THE WITNESS: I think this would be a good time to take a break.
MR. OLSON: We should make a note of the time. It's 11:40. We started at maybe 9:40 or something like that. So about two hours so far.
(Recess.)
BY MR. OLSON:
Q. At the homes that you visited in Missoula, were the homeowners actually using the rooftop antennas at which you did inside measurements in every case?
A. I'll say yes. But I'd like to elaborate.
Q. Sure.
A. We asked them to activate their television system so they could view the off-air signal. In the one case it was a rabbit ear antenna but they were using their homeowner's antenna system.
Q. I guess my question is before you asked them to set it up for off-air viewing, were they using those antenna systems in the normal course of their lives to do off-air viewing?
A. I don't know if they were using it in the normal course of their lives. It represented no serious challenge to activate the off-air reception. I assume it was readily available.
Q. Did they hook up their own transmission lines

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from the rooftop antenna to their own equipment or did you do that?
A. At the time of my visit you're talking about?
Q. Yes.
A. It was already hooked up.
Q. What tests did you make to determine whether or not they had hooked it up in the optimum way?
A. Optimum way?
Q. Yes.
A. I looked at the system and logged the components in order as I saw them in the flow of the signal from the antenna to the receiver or the reverse, and by that, checked that it was properly activated, properly connected.
Q. If you had been hooking them up, could you have hooked them up any better?
A. For what purpose better?
Q. For purposes of getting a better picture?
A. Yes.
Q. In how many cases was that true?
A. In probably two or three or four. It's hard to say.
Q. What would you have done differently to get a better picture?
A. Experimented to find the best connection.
Q. Were any of the households you visited in

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Missoula cable subscribers?
A. I don't believe so. One of the questions that we asked was whether cable was available. And I can go through the material but I don't believe we saw cable at any of the locations.
Q. Did you ask them whether or not they had been cable subscribers during the 90 days before they signed up for Prime Time 24?
A. No. Our only question was to list all -- it says all RF sources one of which is the source cable.
Q. Directing your attention to the back of the your report, Exhibit 1, in particular to the map of Missoula?
A. Figure 2?
Q. Figure 1. I believe you're looking at the Fresno map.
A. Mines out of order. Figure 1?
Q. Figure 1, Missoula; right.
I notice that there are black dots with circles around them and numbers next to them. What do those refer to?
A. Those are the household locations.
Q. Did you put those there by hand?
A. Yes.
Q. You drew those little circles by hand?
A. No. If you want to know actually how they got

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on there, they're appliques on an overlay. The coordinates were spotted by a computer from the coordinates of the location and an applique of the darker dot and circle is applied over the computer spot on the overlay. Then the overlay was over laid over the map.
Q. Let me see if I understand. Did you have some way of determining the latitude and longitude of these particular locations?
A. Yes.
Q. What was that method?
A. We plotted the household location on a detailed topographic map of the best map that we had available for the area and measured the latitude and longitude off of those detailed topographic maps.
Q. You did not do a GPS measurement at the sites?
A. No. We did not use GPS.
Q. Did you get a latitude and longitude figure that you then used to plot on Figure 1 in your report?
A. I believe that's the way this one was generated by latitude and longitude.
Q. Just to summarize. You had latitude and longitude figures for the households and that enabled you to put these dots at what you believe to be the correct points on this map?
A. That's correct.

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Q. Is this the first time you've ever done that?
A. No.
Q. What other occasions have you had to pinpoint locations through latitude and longitude data?
A. What other? Almost daily. We deal with latitude and longitude in determining locations of the positions of the transmission sites and receiver sites, whatever you want constantly.
Q. What are the ways that you know about that one can determine the latitude and longitude of a particular location?
A. Survey, topographic map, GPS coordinates, reference to existing documentation for an existing site that others have determined latitude and longitude. There are many.
Q. What other methods are available?
A. What other methods?
Q. Uh-huh.
A. Off the top of my head, I can't say think of any that I would say that are major methods.
(Culver Exhibit Nos. 5 and 6 were marked for identification.)
BY MR. OLSON:
Q. Mr. Culver, directing your attention to Exhibit 5, have you seen that document before?

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A. Yes.
Q. What is it?
A. This is the list of addresses supplied to us in the field to visit these locations.
Q. And whose handwriting is on this document?
A. It's a mixture of handwriting. Part of it is mine and part of it is my assistant, my field assistant.
Q. And what about the typewritten material, where does that come from?
A. This list was faxed to us in the field. It was actually faxed to my assistant prior to my arrival in the field.
Q. Who faxed it to your assistant?
A. I don't know. I assume it was from the law firm.
Q. The names and addresses in the Missoula area that are listed on Exhibit 5, who chose them?
A. This list was faxed to us. So it came from the law firm.
Q. Did you ever have any discussions with any one at the law firm about how these particular households were selected?
A. No, not at all.
Q. Did you have any interest in knowing how they had been selected?
A. No.

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Q. And why not?
A. It doesn't matter how they's selected as long as it's some kind of random sample within the area. My task was not to select the households. My task was to go to the household selected and report on the reception at the location.
Q. So as long as they were a random sample, that in your view would be appropriate?
A. Even the randomness of the sample is not too appropriate. My defined task was to go to the locations delivered to me as locations and make the measurements.
Q. If the locations had been hand picked by the lawyers to try to prove a point they wanted to prove, would that be of interest to you?
MR. DEUTSCH: Objection.
THE WITNESS: You're asking me to speculate on something I have no knowledge of.
BY MR. OLSON:
Q. What do you know about how these locations were selected?
A. I do not know how they were selected other than perhaps these were subscribers to the service. That would be the only thing that I could guess at as to where the pool of potential houses came from.
Q. Have you ever seen any lists other than this of

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subscribers to Prime Time 24 in the Missoula area?
A. No.
Q. Did any lawyer tell you anything about how these households were selected?
A. No.
Q. Am I correct, you have no knowledge at all about the method for selecting these homes?
A. None.
Q. And with respect to the locations in Fresno which are listed in Exhibit 6, am I correct that in Fresno as well you have no knowledge about how these locations were selected?
A. That's correct.
Q. So it is not -- you are not providing testimony that these households were selected randomly from some universe; correct?
A. I am providing no information as to how they were selected.
Q. Do you know approximately how many subscribers Prime Time 24 has within the predicted Grade B contour of KJEO?
A. No.
Q. Do you have any idea of the order of magnitude?
A. Of the subscribers within the Grade B contract?
Q. Yes.

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A. Absolutely no idea.
Q. Never discussed that with any one?
A. No. The first --
MR. DEUTSCH: Just answer the questions.
THE WITNESS: I have no idea as to how --
MR. DEUTSCH: Mr. Culver, just answer the questions.
THE WITNESS: Thank you.
BY MR. OLSON:
Q. We were just discussing predicted Grade B contours. Can you just explain in your own words what a predicted Grade B contour is?
A. Without further elaboration, if someone says predicted Grade B contour, I must assume that they're using the FCC prediction method. There are curves contained in the FCC rules from which you can extrapolate the distance that a contour may extend given an effective antenna height and radiated power.
Q. And are the curves that you have shown in the Missoula and Fresno maps in your expert report, Exhibit 1, are those FCC predicted Grade B contours?
A. They are.
Q. And without going and actually doing specific signal intensity measurements at particular locations, are FCC predicted Grade B contours the most reliable way to

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determine which households are likely to get a signal of Grade B intensity?
A. No.
Q. What other methods are available that are more reliable?
A. Any method that takes into account the additional factors that the FCC prediction method does not take into account.
Q. What are the principal factors are you referring to?
A. Principally, it would be terrain obstruction.
Q. And why is terrain obstruction relevant?
A. The signals don't like to penetrate the ground. They refract and reflect around obstacles. They'll reflect off of a mountain ridge into a valley or they'll bend over a mountain ridge to some extent into a valley.
Q. So, what methods are you familiar with that one can use to take terrain into account in determining what locations are likely to get a signal in Grade B intensity?
MR. DEUTSCH: I object. The prediction of signals is not within the scope of what Mr. Culver's report covers. Mr. Culver's report covers the measurement at particular locations. He was not proffered as an expert in prediction of signal strength by theoretical models and, therefore, he's not here to testify on that subject and you

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may not answer.
BY MR. OLSON:
Q. You may answer.
MR. DEUTSCH: Mr. Culver is not here as an expert on that subject. That is beyond the scope of his expertise. He's not a witness on that subject. He is here as an expert witness to be questioned about the scope of his proffered report in this case. I have given you plenty of latitude. But predictive methodology is not within the scope of what he has been retained and what he's proffered to report. He's not here to testify about that.
BY MR. OLSON:
Q. You may answer.
A. There appears to be some differences as to whether I should answer this question or not.
MR. DEUTSCH: Were you retained to testify about predictions of signals?
THE WITNESS: No.
MR. OLSON: I will tie this up in a moment. However, I will note that the federal rules do not permit instructions not to answer other than with respect to privileged matters or matters as to which you have obtained a protective order.
I will be happy to tie this up and you will see its relevance very quickly to Mr. Culver's report. I will

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tell you that if you instruct him not to answer, I believe it is a flagrant violation of the federal rules.
MR. DEUTSCH: I've instructed him not to answer. I told you pretty directly that this is beyond the scope of what he's an expert in.
MR. OLSON: I understand.
MR. DEUTSCH: Therefore, I want you to understand. He's not testifying as our expert or our witness in any questions that he answers that go beyond the scope of what he's been retained for.
MR. OLSON: You've made your objection.
MR. DEUTSCH: He may speak but he is not testifying as Prime Time 24's expert.
MR. OLSON: You've made your objection very clear.
BY MR. OLSON:
Q. What methods are available that enable one to take terrain into account in determining what locations are likely to get a signal of Grade B intensity?
A. There are many methods that have been created over the years to attempt to take into account other variations including terrain.
To name a few, there is a method called the Bullington method. There is the National Bureau of Standards tech note 101/Longley-Rice method. There is a

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method called TIREM, T-I-R-E-M, which is basically a combination of several methods. And those are perhaps the best known methods to attempt to take into account factors that the FCC curves do not take into account.
Q. Have you used any of the three methods you just mentioned; namely, Bullington, Longley-Rice or TIREM yourself?
A. Yes.
Q. Which ones have you personally used?
A. All three.
Q. Which one have you most recently used?
A. Longley-Rice.
Q. For what purposes did you use it?
A. Longley-Rice is specified as part of the FCC digital television allocations and channel allotment methodology. I've use it most recently in that limited capacity.
Q. And were you using that in connection with analog or digital broadcasting?
A. It actually gets used with respect to both signals in determining replication of coverage and interference. But it applies to both analog and digital within the digital television rulemaking proceedings.
Q. You mentioned replication of coverage. Can you explain to me what you mean by that?

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A. We are getting far afield.
MR. DEUTSCH: We are not only far afield from his proffered area of expertise, but it's pretty far afield from this case.
MR. OLSON: I will assume you have a continuing objection to this line of questions if you don't want to repeat your objection as to each question. You can tell me when you've stopped objecting.
MR. DEUTSCH: I have added a different objection here; namely, the relevance of the digital to the case.
BY MR. OLSON:
Q. You may answer.
A. Restate the question?
Q. Yes.
What do you understand -- when you talk about replication, what's the context you're referring to there?
A. The FCC defined within the digital allocation process the replication of service by the digital stations. They wanted to produce the service that existed for stations. In order to do that they first predicted the existing service using the FCC's normal prediction method and then from that assumed that they had assigned a digital station at the same location and the same antenna height as an analog service and calculated what is necessary for the digital signal to replicate that FCC normal prediction

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service area.
Q. And how was Longley-Rice used in this procedure?
A. It was used to determine whether or not the digital service provided service to a location inside the area to be replicated and whether or not interference from outside sources both analog and digital came into that replication area.
Q. Have you ever personally created a Longley-Rice map for an analog TV station?
A. Not a map, no.
Q. Have you generated data without regard to whether you created a map from it reflecting the Longley-Rice predictions for the propagation of an analog TV station?
A. Yes.
Q. What parameters did you use in creating those maps?
A. It depends on the purpose for which the maps were created.
Q. If you were creating them for purposes of the FCC replication process that you just described.
A. You wouldn't have used them to create anything other than the digital service. You're talking about analog service now?
Q. I'm talking about analog service. Yes.
A. I don't think I've ever done that for replication

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for the analog system.
Q. For what purposes have you created Longley-Rice maps for analog television stations?
A. Analog television? The purpose would be to discover whether or not there is overlap of certain contours between television stations for the purpose of duopoly ownership showings.
Q. You said contours a moment ago. Do you mean overlap in Longley-Rice predicted coverage areas?
A. Yes. And from that was generated a continuum of coverage areas that define a contour to show whether or not those contour overlap.
Q. In other words, instead of using the traditional FCC Grade B contour, you created a different contour that reflected the Longley-Rice predicted coverage area; is that correct?
A. For the purposes of showing whether the two contours overlapped.
Q. Was this for purposes of submission to the FCC?
A. Yes.
Q. And when you created those maps -- pardon me. Were these maps?
A. No. Well, the end result was a map and it was a map of continuum of locations. Yes, it was a map.
Q. When you generated the data that may have

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ultimately been shown as a map, what time and location variabilities did you plug into Longley-Rice?
A. Because this was broadcast television, it would 50 percent time and 50 percent location.
Q. Do you remember what assumed antenna height you factored into Longley-Rice?
A. The antenna height that was being used by the station.
Q. Pardon me. I don't mean the transmitting antenna. I mean the receiving antenna.
A. The receiving antenna height? For a fixed service broadcast? Ten meters.
Q. Which is a little over 30 feet?
A. About 30 feet.
Q. And you prepared those data and ultimately those maps for submission to the FCC?
A. Yes.
MR. DEUTSCH: The witness has stated the purpose for which he created them a moment ago.
BY MR. OLSON:
Q. Let me hand you a copy -- and I'm not going to mark it as an exhibit because it's already in the record of the case -- a copy of the supplemental expert report of Jules Cohen which is dated May 29th, 1998. And I'm going to show you two maps that are part of Exhibit 2 to

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Mr. Cohen's supplemental expert report.
Let me, first, show you the second map that is behind that tab. Would you mind if I came over to your side of the table?
A. That's fine.
Q. I will ask you to just accept for the moment that the yellow area on this map reflects the Longley-Rice predicted Grade A coverage of KJEO and that the brownish or muster colored area reflects the Longley-Rice predicted Grade B coverage area for KJEO.
Do you follow me?
A. I hear what you said. Yes.
Q. You understand?
A. I understand what you're presenting.
Q. What I'm asking you to assume?
A. Okay. It's an assumption.
Q. I will further ask you to assume that the black lines represent the predicted Grade A and Grade B FCC contours, traditional FCC contours for KJEO.
Do you understand?
A. I understand.
Q. And I'll further ask you to accept that the black dots located on this map reflect the locations of Prime Time 24 subscribers who signed up over a certain period of months?

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A. I understand that.
Q. Do you see that there is a large concentration of subscribers in and near an area that I will ask you to accept is the city of Fresno?
A. I see that.
Q. And do you see there are further concentrations of subscribers down towards the southern end of the area shown on the map; correct?
A. Yes.
Q. Let me now show you the second page of Exhibit 2 to Mr. Cohen's supplement expert report and --
A. Actually, the first page.
Q. Pardon me, the first page. Thank you for that correction, of Exhibit 2 to Mr. Cohen's supplement report.
And I will tell you that this map -- I'll ask you to accept that this map shows the locations of the Prime Time 24 subscribers that your engineers visited in Fresno.
Do you follow that assumption?
A. I follow that.
Q. Do you recall the clump of subscribers near downtown Fresno that I showed you on the second page? I'm asking you to accept that these are near downtown Fresno.
MR. DEUTSCH: Do you recall the assumption that you asked him to make that that was downtown Fresno?
THE WITNESS: I recall that.

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BY MR. OLSON:
Q. By downtown Fresno, I mean the Fresno metropolitan area. I don't mean the hardcore downtown. I mean, Fresno as opposed to other cities.
A. It's one of several clusters on the map.
Q. Sure.
And you see that your engineers tested one location that is close to that clump that we've been discussing; correct?
A. I see that.
Q. Do you recall -- rather than recalling, let's just take a look. At that location, location No. 1, your engineers tested only inside the house; correct?
A. That's correct.
Q. And the receiver input voltage they found there was at 66 dBu; correct?
A. That's correct.
Q. And your report indicates that a receiver input voltage of 52 dBu is the level that the FCC had specified as being equivalent to Grade B service; correct?
A. That was a citation from the FCC's rulemaking in 1951.
Q. Correct. And the dBu's that your engineers measured at location No. 1 are substantially above the level that the FCC had specified as necessary to provide Grade B

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service; correct?
A. They're above the 50, whatever the number was.
Q. 14 dB above; correct?
A. Was it 52? Yes.
Q. So at the one location that you tested -- that your engineers tested that is close to what I will ask you to accept is the clump of subscribers here in the middle of the map with the black dots, you found and in the house receiver input voltage significantly above the level, that the FCC had described as Grade B; correct?
A. Receiver input level to have achieved Grade B picture?
Q. Yes.
A. During the 1951 third report in order?
Q. Yes. The one that you cite in your report?
A. That's right.
Q. There's another clump of subscribers -- if you accept as accurate, which I ask you to do, the second page of Exhibit 2 to Mr. Cohen's supplement declaration, there are two other large clumps of subscribers towards the very bottom of that map; correct?
A. Yes.
Q. Your engineers began accepting the accuracy of the placement of your subscriber dots here. Your engineers tested three locations that were near those clumps; correct?

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A. I'll accept that representation.
Q. And at all three of those locations they tested signal intensity outdoors; correct?
A. That's correct -- two, three and four.
Q. At two of those, they measured signal intensity above Grade B; correct?
A. Yes.
Q. That is, locations No. 2 and 3?
A. I'm sorry. No. That is not correct. Oh, two and three. I'm sorry. Yes. Two of them exceed 64 dBu.
Q. Location No. 2 and location No. 3 were measured outdoors to exceed Grade B intensity; correct?
A. That's correct.
Q. Location No. 4 is another one down towards the bottom of the map near those two other clumps; correct?
A. That's correct.
Q. At that location, you measured at 15 feet 1 dB below Grade B intensity; correct?
A. Yes.
Q. Now let me ask you to take a look for the moment at the locations of the other subscribers that Prime Time 24's lawyers asked your engineers to test in Missoula?
MR. DEUTSCH: You're asking him to accept your statement that those are those locations?
BY MR. OLSON:

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Q. I'm asking you to accept that these locations have been accurately plotted for the other subscribers that your engineers visited.
MR. DEUTSCH: And understanding that Mr. Culver has no knowledge one way or the other about that.
BY MR. OLSON:
Q. If you would like, Mr. Culver, why don't we just take a moment and if you want to roughly compare these to the locations that you've plotted on the map. You'll see No. 4 down here very near the bottom of the Grade B contours, No. 2 and 3 and so on.
I'll ask you to accept it but at your leisure if you want --
A. I'll accept the premise that these represent the locations that measurements were made at.
Q. Do you know whether Prime Time 24's lawyers had generated a Longley-Rice map of KJEO in the process of selecting the locations that they asked your engineers to test?
A. No, I do not.
Q. I will ask you to accept that the letters N and Y next to the location numbers on this map reflect that Longley-Rice predicts either that the household does or does not get a signal Grade B intensity.
Do you follow that assumption?

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A. I understand what you're saying.
Q. Do you see that of these locations, this map indicates that one, two, three, four, five, six, seven, eight do not get a signal of Grade B intensity from KJEO?
MR. DEUTSCH: The witness is not testifying to that. The witness will say yes he sees that. This doesn't make it possible for you to cite this witness' testimony as evidence to the fact. I don't understand, therefore, what you believe you're accomplishing by just pointing out to the witness what you are representing to him to be true.
MR. OLSON: I would be grateful -- if you want to make an objection to the form, be my guess.
BY MR. OLSON:
Q. Do you understand --
MR. DEUTSCH: I want to make it clear that this witness' answers to these questions are not evidence.
BY MR. OLSON:
Q. I'm not asking you to testify what Longley-Rice says about these people. I'm asking you to tell me -- because I have some further questions to ask you about it -- what you see on this map. And you see, do you not, that eight of these locations are on this Longley-Rice map and, if they have been correctly located, are shown not to be served by this station?
A. I see locations with an "N" after that.

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Q. Of the 14 locations, how many N's do you see?
A. I'm getting seven.
MR. DEUTSCH: Actually I did, too.
BY MR. OLSON:
Q. Okay. So you count seven. I think we all count seven.
A. On this exhibit.
Q. Do you know of the Prime Time 24 subscribers within the predicted Grade B contour of KJEO, do you know what percentage are predicted by Longley-Rice to get a signal of Grade B intensity?
A. No, I do not.
Q. Do you see that in addition to the seven locations that on this map are shown as predicted by Longley-Rice not to get a signal of Grade B intensity, there are also several other locations that are very close to the edge of the area predicted to get Grade B intensity?
A. As represented on this map, yes.
Q. Do you see, for example, that location No. 6 is at the very outer limits of an area shown as getting Grade B intensity by Longley-Rice on this map?
MR. DEUTSCH: Again --
MR. OLSON: Steve, you've made your objection. This letter is very clear.
MR. DEUTSCH: My objection continues that this

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witness is not testifying to the truth of the statements you are making which are simply your representations.
MR. OLSON: I am asking you to -- I'm trying to set up a question. I'm asking you to make some assumptions. I do not need further speeches from you, Mr. Deutsch.
MR. DEUTSCH: I don't want the transcript cited as evidence for the truth of the statements.
MR. OLSON: I have not indicated that I would do not. There's no basis for you to make that objection and we really don't need more speeches.
BY MR. OLSON:
Q. You see, for example, that on this map location No. 6 is shown as being at the very outer edge of an area shown by Longley-Rice as being served; correct?
A. The location No. 6 is on the edge of a yellow area as predicted on this map.
Q. And the same is true of location No. 8; correct?
A. It's close to an edge.
Q. And location No. 5 is also close to an edge; correct?
A. It's hard to say.
Q. It's hard for you to say that that's close to an edge of Longley-Rice?
A. It appears more to be in the center of an area of Longley-Rice yellow colored area.

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Q. Will you agree with me that location No. 5 is a lot closer to the edge of the Longley-Rice predicted Grade B area than most of the dots in the center of the second page of the exhibit we're discussing?
A. Location No. 5 is closer to the edge of the yellow area than are other locations.
Q. Do you think it is a coincidence that seven of these locations are shown as, on this map, as being unserved according to Longley-Rice and that several other locations are near the edge of the area shown as served?
MR. DEUTSCH: Objection.
THE WITNESS: I don't even understand the question. I'm sorry. I don't understand what you're asking me to do.
BY MR. OLSON:
Q. Who chose the locations that were tested in Fresno to the best of your knowledge?
MR. DEUTSCH: You know the answer to that question, Mr. Olson. He's answered it several times for you.
THE WITNESS: To the best of my knowledge, we received a list of locations that came directly from the attorneys that hired us to make the observations in the households as to whether or not there was a picture service to the household.

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BY MR. OLSON:
Q. And what do you understand the attorneys -- their purpose to be?
MR. DEUTSCH: Objection.
BY MR. OLSON:
Q. You may answer.
A. Their purpose was to instruct me to go to the households and determine whether or not there was service there. I specifically would not want to know what a purpose is or an agenda or anything like that.
Q. If this map accurately depicted the Longley-Rice coverage area for KJEO and if it accurately depicted the locations of the subscribers that Prime Time 24's attorneys gave you to test and if the second map accurately depicts the locations of actual Prime Time 24 subscribers in the Fresno area; do you believe that the locations chosen by Prime Time 24's lawyers fairly represent the overall population of Prime Time 24 subscribers in the Fresno area?
MR. DEUTSCH: Objection.
BY MR. OLSON:
Q. You may answer.
A. I have no opinion on that because we were not involved with the selection of the locations.
Q. Do you have any opinion at all about whether or not the locations that the attorneys selected in Fresno are

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a fair sample of the universe of Prime Time 24 locations in that market?
MR. DEUTSCH: Objection.
THE WITNESS: I told you before, I could have no opinion on the selection process.
BY MR. OLSON:
Q. Whether it's fair or unfair?
MR. DEUTSCH: The witness has repeatedly told you he has no opinion.
BY MR. OLSON:
Q. And the same --
MR. DEUTSCH: I object strenuously to your asking questions that he's already unequivocally answered.
BY MR. OLSON:
Q. Just so the record is clear, we've been talking about Fresno. In Missoula your answers would be the same?
MR. DEUTSCH: He's already given the same answer.
THE WITNESS: The answer is the same. I had no opinion on the selection of the locations.
BY MR. OLSON:
Q. If you wanted to find out about the characteristics of the universe of Prime Time 24 subscribers within the predicted Grade B contour of KJEO, what would you do to make a selection?
MR. DEUTSCH: I'm going to object. This witness

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is not a statistician. You, yourself, hired a statistician that didn't use a broadcast engineer.
MR. OLSON: I appreciate your coaching. You may answer. Your objection is clear. You've objected. They are very clear rules in the south district of Florida about coaching objections being unacceptable. You have stated your objection for the record. I will certainly not suggest to you have not adequately stated it.
BY MR. OLSON:
Q. Sir, you may answer.
A. Can you repeat the question?
Q. If you were asked to do the best scientific study you could about the ability of Prime Time 24 subscribers, all of the Prime Time 24 subscribers within the predicted Grade B contour of KJEO to receive a signal of Grade B intensity over the air, what approach would you take?
A. I was not asked to do that. This was not part of the project. I was given a specific assignment to visit a specific lists of locations and determine whether or not those locations had service.
That's beyond the scope of the project. You're asking me to do something now that I haven't contemplated. I haven't even thought about.
Q. Have you ever done work for clients in which you have tried to get an idea of a station's coverage across a

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substantial area?
A. Yes.
Q. And what did you do in terms of choosing selections at which you would make measurements?
A. There is one defined process -- we're getting pretty far afield here. I'll say there is one defined process in the FCC rules to determine whether a community has service or not and that is to take a series of grid measurements across the community and determine by that whether there is a level of service in that community, predicted service, predicted under the FCC rules.
Q. And that's a method specified by the FCC?
A. That is one method for specific use as defined by the FCC.
Q. When you have done work such as you did with WTOG in Florida, is that the procedure you followed or did you do something else?
A. No, it is not.
Q. What did you do there?
A. There we went to areas that the station was concerned about, generally, peripheral areas to discover the extent of service and compared the service of their station with another station.
Q. Have you ever submitted any survey to the FCC in which the locations selected were chosen by attorneys for

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a party for which you were working?
A. I can't recall whether I did or not.
Q. Why don't you take a moment to think about it?
A. A moment won't assist me. Where selections were selected by a person, I don't believe so.
Q. Have you ever done any other studies for submission to a court?
A. Studies of what?
Q. Studies of any kind.
A. Yes.
Q. Have you ever done another study for submission to a court in which the lawyers for one side provided you the list of locations at which testing would be done?
A. I don't believe so.
Q. You know that I'm an attorney for the plaintiffs in this case; correct?
A. Yes.
Q. Suppose for the moment that the second page of Exhibit 2 to Mr. Cohen's supplemental report accurately shows the locations of Prime Time 24 subscribers. If I, as an attorney, selected 14 locations in the clump on this map that are shown as getting a signal Grade A intensity located in or here the city of Fresno, would you consider that to be a scientifically valid survey?
A. I was not asked to do that and I would say that

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the information that I received came from others. And I'm sorry I can't comment on your hypothetical situation.
Q. You don't have any view about how one selects a fair sample from a universe?
A. Usually we defer to other experts to select samples.
Q. And you mentioned random selection before. You're familiar with that method of selection?
A. Yes.
Q. Do you believe that to be an appropriate method of selecting a sample?
MR. DEUTSCH: Do you want to state the purpose of the sample in asking the question?
BY MR. OLSON:
Q. If you're attempting to achieve results that you can generalize the entire universe, is random selection to your knowledge an appropriate way to do that?
A. To achieve -- that you can generalize in the entire universe of what you're sampling?
Q. Yes.
MR. DEUTSCH: I guess, I will repeat my objection here.
MR. OLSON: You've repeated it.
MR. DEUTSCH: I just want you to understand.
MR. OLSON: I understand the objection. You do

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not need to coach this witness.
MR. DEUTSCH: This witness is not an expert on the subject you're questioning him about. I want that understood loud and clear.
THE WITNESS: I think we've already covered it when you asked about selection of samples that I would defer to the purpose of the test and the individual requesting it and suggest, if you needed to, that if they want some scientific basis for the sampling, that they seek a scientific basis.
BY MR. OLSON:
Q. And the purpose of this project was what?
A. The purpose of this project was to determine whether the individuals enumerated could receive a quality -- what quality of service -- picture service the households could receive.
Q. With their own equipment?
A. If their own equipment was present, yes.
Q. So, for example, if we take a look at Exhibit 2, Page PTM 010016 --
A. Missoula?
Q. Yes.
A. 16?
Q. Yes.
A. Okay.

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Q. Do you see here that there's a note, I assume in your handwriting, indicating that the antenna there was 22 years old?
A. No.
Q. You don't see that?
A. I see what it says. But it doesn't say 22 years old.
Q. What does it say?
A. It says approximately two years old. The double squiggly line --
Q. I understand.
Were there splitters at any of the locations you visited?
A. Yes.
Q. Did you test the signal after it had been split or did you adjust and sort of eliminate the effect of the splitter?
A. My task was not to build a system. It was to test the system that existed. We did attempt or make a reasonable effort to see if the system was functioning. That's been pointed out in the report. It's clearly stated.
Q. Could you answer my question, please?
A. The question was did we test after the splitter to see if the splitter was functional? No.
Q. My question is a splitter takes the signal coming

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from the antenna and divides it into two; correct?
A. That's correct.
Q. So one of the wires, one of the two split wires would be going ultimately to the TV set; right?
A. It would be going in one direction and the other one would be going in another direction.
Q. But one of them was hooked up ultimately to the TV set --
A. Correct.
Q. Did you eliminate the splitter so as to see what signal you would get if you did not have a splitter?
A. No.
Q. So when you say that you were testing what kind of reception these households could get, you're talking about what they could get in this case with a signal in which half of the signal was going off in other wire away from the TV set?
MR. DEUTSCH: Objection. There's no evidence that using a splitter results in half of the signal going in another direction.
BY MR. OLSON:
Q. You may answer.
A. What we tested was the quality of signal that was actually received at the location in the manner that the system was set up at the location.

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Q. In that location that did have the splitter, how much of the signal was going off in the other direction away from TV set?
A. A portion of it.
Q. Was it less than 50 percent or more than 50 percent?
A. It depends on the splitter.
Q. But in this particular case, what was it?
A. In this particular case here?
Q. Yes.
A. We do not know.
Q. So it could have been more than half?
A. It could have been less.
Q. It could have been more than half?
A. I'd say in this case it was much less than half.
Q. And how do you know that?
A. Because the comment here is band splitter not power splitter. So what we were doing here is making a split based on a frequency band as opposed to power.
I would suspect that perhaps he had an FM radio hooked up or something else that maybe he wanted it separate to VHF or UHF output. But saying band splitter to me means that it was a band splitter rather than a power splitter.
Q. Are you prepared to give testimony that you will stand on about the percentage of signal that was lost as to

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the splitter?
A. For this one? No.
Q. You do not know?
A. No, I do not know.
Q. How many other splitters were there in Missoula?
A. I don't know. I'd be glad to do just what you're doing and count them up.
Q. Sure.
A. Which page do you want?
Q. Why don't you take a look at PTM 1005, for example.
A. Okay.
Q. Do you see at the bottom of that page there seems to be a reference to two-way splitting?
A. Yes. Let's see. Which line are you looking at? Down at the very bottom line?
Q. Yes.
A. Yes, two way splitters.
Q. What does that refer to?
A. That is a power splitter.
Q. Does that reduce the strength of signal that is arriving at the end of the split wire that is going to the TV set?
A. Yes.
Q. And in this particular case by what percentage

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is it reducing?
A. The two-way splitter would be approximately half.
Q. How about --
A. Do you want me to refer back to that one?
THE WITNESS: Can we take a minute?
MR. OLSON: Sure.
(Recess)
THE WITNESS: To finish my description of that system, there are other components in it. For example, there are two amplifiers in the system.
BY MR. OLSON:
Q. But if there were not a splitter at the end of the system, you would expect there to be a stronger signal available to the TV set; correct?
A. The split is not at the end of the system. But a splitter reduces the signal level. I'm sorry. A power splitter reduces the signal level.
Q. Returning your attention to PTM 01008?
A. Okay.
Q. Do you see there is a reference to a two-way splitter there?
A. Yes.
Q. Turning your attention to the next page, 10009, could you just read what your handwriting says there?
A. A 75 ohm to 75 ohm VHF/UHF -- excuse me -- 75 ohm

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VHF, 300 ohm UHF -- I'm adding HF after the V and U -- splitter was feeding set. The 75 ohm side was unterminated creating added loss. Removing it yields No. 3 above signal.
Q. Did you remove it or not remove it when you made a videotape at this location?
A. I probably removed it. I would have to careful review my notes and try to reconstruct what happened.
Q. These are the notes right here; right?
A. I know. I would have to carefully review them in total not just this page.
Q. If you would carefully review your notes for this location No. 3 in Missoula and tell me whether you know which way you did it?
A. From a cursory review of this, I can't say whether the splitter was in or out of the circuit.
Q. We have time. Take as much time as you need.
A. No. I cannot determine.
Q. Okay. Turning your attention to PTM 010016.
A. Sixteen?
Q. Yes.
Do you see a reference to a band splitter under the typed words other community antennas?
A. Yes.
Q. What does that refer to?
A. I think we actually looked at this particular

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page.
Q. I apologize.
A. I remember the other things that were in the system.
Q. Taking a look at 10024, please?
A. Yes.
Q. Under the words other community antennas there are a series of words with arrows between them. What does the two-way, two-way reference mean?
A. Those are two-way power dividers.
Q. Are there two of those in a row?
A. Yes, there are preceded by an amplifier.
Q. Does that me that if you combine two two-way splitters in a row that you're, roughly speaking, dividing the signal in 4ths?
A. That's correct.
Q. Did you test to find out what picture this household would have gotten if they had taken the signal without either of those splitters?
MR. DEUTSCH: And/or without the amplifiers.
THE WITNESS: Nor with the amplifier. We made no change to the system to see whether removing or adding components that were normally used in the system made any difference.
MR. OLSON: Mr. Deutsch, I would grateful if I

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could ask the questions.
MR. DEUTSCH: The witness has made that point previously.
MR. OLSON: Do you want to have lunch?
THE WITNESS: Fine.
(Whereupon, at 12:45 p.m., the deposition in the above-entitled matter was recessed, to reconvene at 1:15 p.m., this same day.)

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AFTERNOON SESSION,
(1:30 p.m.)
Whereupon,
ROBERT D. CULVER,
the witness herein, called for examination by counsel for Plaintiff and having been previously duly sworn, was further examined and testified as follows:
EXAMINATION BY COUNSEL FOR PLAINTIFF (RESUMED)
BY MR. OLSON:
Q. With whom have you spoken in preparing for today's deposition?
A. Only Mr. Deutsch.
Q. Nobody else?
A. No.
Q. Do you know anything about the process by which the Satellite Home Viewer Act was adopted by Congress?
A. No.
Q. Have you completed your work for Prime Time 24 or its attorneys?
MR. DEUTSCH: That's an ambiguous question in the sense that if he answers the question literally, he will have to say yes because obviously it's contemplated that he would testify in this case.
BY MR. OLSON:
Q. Let me be clear. In terms of substantive work --

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gathering of data, analyzing data as opposed to testifying about work you've already done -- are you done with your work on this matter?
A. Yes.
Q. And has Prime Time 24 or have its attorneys given you any other assignments, of any kind?
A. No.
Q. Have you ever, before the work that's described in your report, done any other work for Prime Time 24?
A. No.
Q. For any other satellite carrier?
A. No.
Q. For any satellite company of any kind?
A. No.
Q. When was the most recent time that you've testified at a deposition or a trial or a hearing?
A. I would guess that it has been four or five years.
Q. And what was the last case in which you testified?
A. It had to do with a television station here in Washington, Channel 14.
Q. Was that for the FCC or what kind of a proceeding was that?
A. I'm sorry. I thought you meant a trial. That was a

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case being prepared for trial.
Q. In court?
A. Yes.
Q. What was the substance of your work in that matter?
A. A technical review of the facilities that were constructed, the effort that went into constructing of the facilities and troubleshooting some problems that were apparent to the facility and to make recommendations as to how they should be resolved.
Q. What station was that?
A. It was Channel 14 here in Washington.
Q. Do you know the call letters?
A. I'm sorry. I'm not sure what their call letters are now. But it is the Channel 14 UHF station that's also -- I believe it's still a home shopping network station. I'm sorry I just can't recall the call letters.
Q. It's a real favorite of mine.
A. That was probably four years if I had to guess.
Q. Did you give a deposition in that case?
A. Yes.
Q. Did that go to trial?
A. It went to trial but was settled very quickly. A settlement was reached rather than completing the trial.
Q. Do you recall who the lawyers were in that case?

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VHF, 300 ohm UHF -- I'm adding HF after the V and U -- splitter was feeding set. The 75 ohm side was unterminated creating added loss. Removing it yields No. 3 above signal.
Q. Did you remove it or not remove it when you made a videotape at this location?
A. I probably removed it. I would have to careful review my notes and try to reconstruct what happened.
Q. These are the notes right here; right?
A. I know. I would have to carefully review them in total not just this page.
Q. If you would carefully review your notes for this location No. 3 in Missoula and tell me whether you know which way you did it?
A. From a cursory review of this, I can't say whether the splitter was in or out of the circuit.
Q. We have time. Take as much time as you need.
A. No. I cannot determine.
Q. Okay. Turning your attention to PTM 010016.
A. Sixteen?
Q. Yes.
Do you see a reference to a band splitter under the typed words other community antennas?
A. Yes.
Q. What does that refer to?
A. I think we actually looked at this particular

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page.
Q. I apologize.
A. I remember the other things that were in the system.
Q. Taking a look at 10024, please?
A. Yes.
Q. Under the words other community antennas there are a series of words with arrows between them. What does the two-way, two-way reference mean?
A. Those are two-way power dividers.
Q. Are there two of those in a row?
A. Yes, there are preceded by an amplifier.
Q. Does that me that if you combine two two-way splitters in a row that you're, roughly speaking, dividing the signal in 4ths?
A. That's correct.
Q. Did you test to find out what picture this household would have gotten if they had taken the signal without either of those splitters?
MR. DEUTSCH: And/or without the amplifiers.
THE WITNESS: Nor with the amplifier. We made no change to the system to see whether removing or adding components that were normally used in the system made any difference.
MR. OLSON: Mr. Deutsch, I would grateful if I

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could ask the questions.
MR. DEUTSCH: The witness has made that point previously.
MR. OLSON: Do you want to have lunch?
THE WITNESS: Fine.
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A. That was probably four years if I had to guess.
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A. Yes.
Q. Did that go to trial?
A. It went to trial but was settled very quickly. A settlement was reached rather than completing the trial.
Q. Do you recall who the lawyers were in that case?

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wanted to establish.
Q. Was it your understanding that it was relevant to some legal proceeding or did they just want to brag around town?
A. It was relevant to a potential business decision as to whether to purchase another station or not.
Q. So which would be the more attractive investment in terms of --
A. Whatever use they wanted to make of it. I'm not sure.
Q. I understand. Did they own one station already?
MR. DEUTSCH: I just don't see the relevance. He told you what the purpose of his work was.
MR. OLSON: All will be become clear, Steve.
MR. DEUTSCH: All right.
BY MR. OLSON:
Q. When you were doing the picture quality assessments of the station your clients did not own, would it make sense to you instead of for you to evaluate the picture quality to have the person who owned the station that you were evaluating do the picture quality assessments?
A. No.
Q. Why not?
A. It would have been introduced far too many variables to have another individual evaluate the picture

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and then try to do a comparison for an evaluation of what the problems were.
Q. I'm talking about having the person who owned the station that your clients were thinking about buying, as opposed to having them do this instead of you, just have one person do it but have it be the owner of that station; would that have been a good practice in your view?
A. For the purpose of our test and the purpose of our observations? No, it would not have been.
Q. And why not?
A. As I stated earlier, we were trying to see where one was strong and one was deficient. And to do that, a side by side comparison at the same time under the conditions with the same person, it would be a much better way of doing it rather than having two different people enter two different conditions.
Q. Fine. Suppose that you had done the engineering part and had gotten the two signals side by side so you could look at the two TV sets next to each other. What if, instead of you looking at both TV sets, it was the person who owned the station that was being shown on one of the TV sets, would it have made sense to have that person do the evaluation.
A. At the same time?
Q. Instead of you, that person would do the

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evaluations?
A. If he was capable of doing it, I can't see why not. But for the purpose that we did the testing, what we did was the best way of doing it at the time we did the testing.
Q. Let me put it another way. I'm assuming that the person who owned the other station would like to win this contest, if you will, between the two stations. Can you accept that premise?
A. If you're stating it as a premise, I will accept it. If you're stating it as a fact of the situation, I can't keep accept it.
Q. Assume for the moment that the owner of the second station would like it to come out that his picture quality is always or most of the time better than the other picture quality. Okay?
A. Okay.
Q. If you make that assumption, would it be appropriate to have that person do the picture quality assessments comparing the two TV pictures?
A. That situation never presented itself. We're on assumption. I'm sorry.
The assumption is that -- I really can't speculate as to whether it would be better or not. You're asking me to do something that I really can't answer.

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Q. Do you know the concept of bias?
A. Yes. I understand the concept of bias.
Q. And in doing picture quality assessments, do you think it's important to have unbiased as opposed to biased observers?
A. I believe it's more important to have observers who report factually and with integrity.
Q. And do you believe that biased people are as likely to do that as unbiased people?
A. If there's a basis for bias and a strong suspicion that there might be bias, then it would probably be a better situation to use what you'd call, I guess, an independent viewer, an independent expert to make the decision.
I guess that's the reason the station hired us to do the work.
Q. I'm sorry. That is because, what?
A. At that TV project that we were talking about, they asked us to do the work because we're capable of doing the work.
Q. Did you have an ax to grind about which way the results came out?
A. Absolutely not. Why should I?
Q. I'm not suggesting you should have. I'm just asking to confirm.

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A. We're talking about this hypothetical one; right?
Q. You didn't care either way. You were just trying to give your best judgments; right?
A. Absolutely.
Q. Let me ask you to take a look at the document that's been marked for identification as Culver Exhibit 7.
Do you have that before you, Mr. Culver?
A. Yes.
Q. This document, I will tell you, is not continuous pages. It's two sets of continuous pages of indices that we received in discovery.
Do you recognize these to be documents that you or the engineers in Fresno created to keep track of which photographs and which videotapes were taken at what locations.
A. Fresno and Missoula?
Q. Yes.
A. Yes. I want to now show you.
Q. I want to now show you the Fresno videotape and if you turn to the last page of Exhibit 7, it contains what is described as a video log for the Fresno videotape?
(Discussion off the record.)
(Videotape started at 1:50.)
BY MR. OLSON:
Q. We have rewound this tape to the very beginning.

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I've set this so you can now see the time counter as it goes by. We are now -- let me pause for a moment.
We are now at about 38 seconds into the videotape. It appears to me that this is a recording made by pointing a camcorder at the TV set at the first location in Fresno, looking at the last page of Culver No. 7.
A. I have that.
Q. Is that your understanding?
A. Yes.
Q. I'm going to take the liberty to fast forwarding to move this process along. We are just at about 2:52 and it appears to me that we have just switched to a recording that was made by attaching the rooftop antenna transmission line to the VCR. Is that your impression as well?
A. Yes.
Q. Would it be meaningful to ask you to give a picture quality assessment to this videotape or is that not a meaningful question because it's a videotape?
A. Of what we're seeing here?
Q. Yes.
A. You're asking for on-the-fly assessment of what we're seeing right now.
Q. Right. Right.
A. Yes. I could do that.
Q. And what would be your rating of this picture?

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A. Just a moment. You can go ahead and pause that for a second.
Q. I just assume you not look at how your engineers rated it?
A. No, I'm not going to. I'm going to look at the tape's characterization.
Q. Sure. Let me propose this and that is, I don't particularly care about the TASO characterization.
A. Well --
Q. Sure. Go ahead and give me your TASO characterization. That's fine.
A. Go ahead and roll the tape.
Probably TASO scale 3, definitely perceptible impairments, but not objectionable, a passable quality picture.
Q. Since we are not particularly evaluating -- if you don't mind I'll turn down the sound.
A. Just turn it down a little bit. That's fine.
Q. Okay. It appears to me based on the log that this tape goes on to about 6 minutes and 15 seconds. So with your permission, I propose to fast forward from 4:20 to 6:16 where the next household starts.
Q. We're now at about 6:18. This appears to me --
MR. DEUTSCH: We can agree that's a camcorder.
BY MR. OLSON:

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Q. -- to be a camcorder pointed at the television set at the second location. Is that your understanding as well?
A. Yes, it is.
Q. With your permission I propose to videotape through the rest of this.
MR. DEUTSCH: Do you have markings is to which it switches? This log doesn't show that.
MR. OLSON: I don't. I may have somewhere but not right here.
BY MR. OLSON:
Q. Let me just ask you while we're seeing this camcorder, in your view is a camcorder recording from a TV set a suitable way to judge picture quality?
A. No. It's a simple way to show what the scene was on the receiver or test.
MR. DEUTSCH: Off the record for a second.
(Discussion off the record.)
BY MR. OLSON:
Q. Let me go back to the point at which it switches from the camcorder to the next segment so we can see if we can diagnose what's happening. We are now at about 708. We are still at the camcorder recording of the TV screen. We're at location No. 2. It's now 7:23, around there. We have now switched to a screen that's just noise. I would

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be happy to fast forward through this. By my question to you is am I correct in understanding that the attempts to videotape at location No. 2 from the -- directly from the antenna was unsuccessful.
A. I think your understanding is correct.
MR. DEUTSCH: Can you tell from the camcorder TV picture anything about the picture quality.
MR. OLSON: If you want to ask that on redirect, be my guest.
MR. DEUTSCH: Well, it's just that we're here. I don't want to run through the whole damn tape again.
MR. OLSON: Okay, If you want to ask that one question.
THE WITNESS: Anything at all about it? Yes, you can tell somebody about it on a gross basis, rather than a step-by-step basis.
BY MR. OLSON:
Q. For example, you can tell that there was something other than complete static on the screen. There was some picture on the screen.
A. There was evidence of a picture the screen, right.
Q. We are now at about 10 minutes and a few seconds. We're now at a completely blank screen, is that fair?
A. Yes.

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MR. DEUTSCH: If you will permit me to do a limited cross on each viewer here so we don't have to roll the tape again.
MR. OLSON: That's fine.
MR. DEUTSCH: The only follow up question I would ask on this topic we were viewing is whether you can determine from the visual of the camcorder picture, is did you see whether that household got a acceptable or unacceptable picture under the TASO scale, based on your observation of the tape.
THE WITNESS: If the differences are gross enough and you have the defining point on the TASO scale, you may be able to make that call.
MR. DEUTSCH: Can you make that call on the one we just saw.
THE WITNESS: As an example, yes.
MR. DEUTSCH: What was your call?
THE WITNESS: It's unacceptable.
BY MR. OLSON:
Q. And would your view, based on that videotape be more reliable or would the view that your engineers made on the spot live and in person be more reliable?
A. I would always defer to the live man on the spot interpretation.
Q. So the fact that at location No. 2, your live and

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on the spot engineers rated the picture quality as being acceptable, you would defer to that rather than your evaluation of the camcorder.
A. I don't believe they did.
Q. Excuse me?
A. What rating did they give it?.
Q. Three.
A. That's acceptable?
Q. Yes.
A. Then they saw a better picture than we're seeing on the videotape.
Q. On the camcorder videotape.
A. Yes.
Q. Let me just stop for a moment. One of the reasons why, if you wanted to find out what quality of picture you were getting on a particular TV set, you would want to take a tape recording from the input to that TV settle as opposed to pointing that camcorder at the TV set.
A. I'm sorry. Can you repeat that one?
Q. Sure.
MR. DEUTSCH: Why do you want to tape off the line instead of by pointing the camcorder at the screen?
MR. OLSON: Well done, Mr. Deutsch.
THE WITNESS: Actually, we did both and for different reasons. Using a camcorder to look at the screen,

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although it introduces the video camera and its own recorder mechanism attempts to record actually what is displayed on the screen, introducing a videotape recorder introduces another piece of equipment. It introduces a new RF tuner into the system. That's the RF tuner on the videotape recorder. Unless you're using the video out from the set that's involved, in most often in cases that's not available. So it introduces another piece of equipment. So in doing both, you get, number one, a more direct representation of what's seen on the screen and second, using the videotape recorder off the RF input is you remove the overlap of the camcorder image and perhaps camcorder motion and things like that.
Q. Well, if you had to choose between the one or the other, which would you choose to represent the quality of the picture?
A. To evaluate the picture?
Q. Yes.
A. Neither.
Q. You would rather be live and in person?
A. I would rather be right there looking at it, looking at my TASO scale, making a critical evaluation of the picture.
Q. If you couldn't do that if you had to choose between a camcorder and a direct RF input into a VCR, which

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would you choose?
A. I would probably ask for both and with lots of warnings.
Q. You're doing what in law school is called fighting a hypothetical. You have to choose one or the other.
A. I wouldn't accept the challenge. I'm sorry, That's my position.
Q. They're equal to you?
A. No, they're not equal. There are problems with both. There are problems with both, and I won't be able to pick one over the other. For the purpose of this test, which was to observe the picture as received in the home on the receiver as hooked up in the environment it was in, eyeballs on the receiver is the way I chose to make the assessment. That's the way everybody was instructed to make the assessment, looking at the scale, having it in front of them, making critical evaluation. This material was representative of what was seen. It is not the basis on which the evaluations were made.
Q. Why don't we continue at the moment. We are coming up to the end of the videotape that was made at location No. 2 in Fresno.
MR. DEUTSCH: It will be 11:39.
MR. OLSON: In a few seconds, we will start at

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location No. 3.
THE WITNESS: Well, that's the problem with counters. It's going to get worse as you going along.
BY MR. OLSON:
Q. We are now at about 11:48. This appears to me to be camcorder footage of the television at location number 3. Is that your understanding?
A. Yes. It probably is, because I see evidence that it is a camcorder. At least I hear --
Q. The label that says Sony at the bottom of the screen, for example.
A. Yeah, okay, that helps. I'm sorry. I thought that was on your set, but it's not. That is one of the reasons that using a camcorder is nice because you can see what kind of set it is and where it's located
Q. Let me fast forward until we can find the location, if there is one, at which they tried to record from the RF input. By the way, can you evaluate from this camcorder recording whether or not this household received an acceptable picture?
A. The TASO scale, I would have to take some time to look at it. There are artifacts on there that are not part of the transmitted signal. I would have to attempt to ignore those artifacts, like the reflection of the person taking the video image, and focus instead on what I

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anticipate would be the broadcast imagine.
Q. Why don't you take a minute to do that and see what judgments you form?
(Witness approached TV screen.)
THE WITNESS: Probably TASO scale 4.
BY MR. OLSON:
Q. TASO scale 4.
A. Which is described as impairmentS being somewhat objectionable, with a quality not quite passable.
Q. Okay, and we are talking about at location number 3 and this is your evaluation for looking at the camcorder footage, correct?
A. It's the evaluation of the imagine that we are looking at right now, not the evaluation of that location.
Q. What, if anything, does that camcorder tell you about what judgment you would have formed had you been there live and in person?
A. It would indicate that I would expect to find an imagine that is not perfect, but is not totally wiped out.
Q. In terms of TASO numbers, can you translate that?
A. Somewhere between 1 and 6.
Q. I'm sorry. 1 and 6 is the whole range.
A. That's right.
Q. So the camcorder is giving you no information. It's giving me gross information. It's not giving me enough

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information to decide between 2 and 3 and 3 and 4 or 4 and 5. It's probably giving me enough information to decide it is either not at the top or not at the bottom or somewhere near the middle and that's basically just what I did. It came out somewhere near the middle.
MR. DEUTSCH: It looks like the next --
BY MR. OLSON:
Q. Let me go back to the location at which we switched from the camcorder at the display. We're at about 13:48 or so. We have now switched to pure static. It appears to me that the attempt to record using the VCR directly from the household antenna at this location was unsuccessful. Is that your understanding as well?
A. It's that or the signal was -- it's probably that. I agree generally with that assessment.
Q. Based on what you saw on the camcorder, you don't have reason to think that the signal was so weak that the VCR would not function; correct?
A. Unless there is something very unusual about the location.
Q. Okay. Let me pause for a moment and recall that at this at this location you were measuring dBu's outdoor of 87. Does that help you to rule out the likelihood that this was a case where the VCR couldn't get enough signal to record anything.

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A. And it generally indicates that there should have been a recording. I suspect some type much failure in the VCR mechanism.
Q. With your permission, I am a going to fast forward through this until we get to the next content.
We are now at about 16:16. It appears to me this is a camcorder recording of the television picture at location number 4. Is that also your understanding?
A. 16 -- yes, that would fall within the time frame for location number 4.
Q. And can you form a view about whether or not, if you had been there, you would have judged the picture to be acceptable based on what you see on this camcorder?
A. Are you asking me to make an assessment of this image I'm looking at right here?
Q. I'm just asking you --
MR. DEUTSCH: Answer the question.
BY MR. OLSON:
Q. -- whether you can make a judgment from this camcorder recording about whether you would have viewed the picture as acceptable if you had been there.
A. No I can't.
Q. I'm going to fast forward to where this switch is to the next input. Let me go back so we can make a note of the time. At about 18 minutes we switched from the

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camcorder recording of the TV screen to noise; correct.
A. That's what I see.
Q. Is it your understanding as it is mine, that what happened here is that the attempt to record using the VCR was unsuccessful?
A. We're getting indications here that there was some kind of a momentary lockup of the VCR and for whatever reason we have actually no picture here.
Q. But I'm going to fast forward through until we see something else meaningful.
A. What time is it?
Q. At about 20 minutes and 7 seconds or so, we switched to another imagine. Is it your understanding that this is a camcorder recording of the television set at location No. 5?
A. From the imagine, I can't tell if it's a camcorder or not. It may be a camcorder image. It might take a little while to decipher whether it is or not, just from looking at this image.
Q. Would it be useful to fast forward to see whether we see something, assuming that they switched from camcorder to VCR, to see whether we see a change at some point at this location?
A. You could fast forward, but you may miss something in between.

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Q. Fine.
MR. DEUTSCH: Tom, have we seen all of the sites that were unsuccessful tapings?
MR. OLSON: I think so, but I'm not certain. Do you know.
THE WITNESS: Do you know where the break comes in this any time.
MR. DEUTSCH: The next site has been 24. They have typically been 2 minutes each, so I should have around 22.
THE WITNESS: Can you do a slow fast forward, like two times speed or something?
MR. OLSON: Let me see if I have that.
THE WITNESS: It should break pretty soon here I guess.
MR. OLSON: Off the record.
(Discussion off the record.)
THE WITNESS: We may have some indication right here that this is a camcorder because I think I see an artifact on the screen. And that is one that indicated -- these little dots.
BY MR. OLSON:
Q. Will you forgive me to fast forward a little bit so we can see where the break is?. Is there a little break there?

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A. We may have. I think that's a break. It's either a break or they just paused the recorder and started it back up. Go ahead.
Q. Do the notes record the log time for changing?
A. We're at 5? Yeah, we're on number 5. Well, look at page 64.
MR. OLSON: Why don't we go off the record here?
(Discussion off the record.)
BY MR. OLSON:
Q. Mr. Culver, I want to show you a different videotape. I will represent to you that these were videotapes that were made in Missoula near the locations of homes that you tested when you were out there using an outdoor standard antenna and VCR as opposed to the homeowners antenna and VCR, and I would like to get your assessments to the extent you can from a videotape about whether or not you believe that these homes received acceptable quality of pictures as seen on this?
MR. DEUTSCH: I object. You said that all of these were done by this -- these were not done with the homeowners' equipment.
MR. OLSON: Correct.
MR. DEUTSCH: And they were not done.on the homeowners' property.
MR. OLSON: Like most of the videotapes that you

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made in Fresno. No. Actually several of these were made on the homeowners' property but never using the homeowners' equipment, always using standard equipment.
BY MR. OLSON:
Q. I just want to get your assessment, again, recognizing that you are looking at a VCR as opposed to live and in person, whether or not you believe these pictures would be acceptable in your judgment if you had been there live and in person?
A. I need you to clarify something that you stated. Not using the homeowners antenna and what?
Q. Using standard -- doing something similar to what you did when you did outside measurements.
A. And you said antenna and something after it.
Q. And VCR.
A. Oh, and VCR. We didn't use the homeowners' VCR, you understand.
Q. Right. This was using standardized equipment at or near the homes of subscribers in Missoula?
A. Do I have any idea of what equipment was used?
Q. Conventional outdoor rooftop antenna?
A. Unknown equipment.
Q. No known equipment.
A. Unknown to me.
Q. Unknown to you, but I mean, you know, a Radio

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Shack consumer antenna.
A. It was?
Q. Yeah. But outside not the homeowners' equipment?
A. But which one, we don't know. I'm sorry. I'm just tying it down when I made my recordings I knew what equipment was being used, and with this I am just taking your statement that it was made with a typical antenna VCR.
Q. I mean, I will ask you to assume it was using a household antenna that did not cost more than $40 or $50?
A. Okay.
(12:14) Q. Looking now at the videotape at around seconds, do you have a view about whether or not, live and in person, this would be an acceptable picture?
A. I think it would have been unacceptable.
Q. Unacceptable, okay. And the reason it would have been unacceptable?
A. Because of objectionable artifacts, impairments to the picture.
Q. And what impairments do you have in mind?
A. In the ghosting.
Q. In ghosting, okay.
We're now at 5 minutes and 37 seconds. Let me ask you whether or not from this videotape you can form a view about whether or not, had you been there live and in person, you would have seen an acceptable picture?

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A. Let's -- once again, I've commented that this is not the actual picture. Let's assume that this is an actual off the air picture, that it is not a videotape picture and I am to make the analysis based on that, and I'm going to look at artifacts that were present that may have been more or less apparent under the actual conditions and if you want me to go through the exercise, I will.
Q. I want to first know whether or not you can form a view from this videotape about whether or not the picture would have been accepted if you had been in person?
A. Yes, an approximate view, as I described earlier. A gross view, not a detailed view.
Q. And what is your gross, not detailed view?
A. On this one, unacceptable.
Q. Unacceptable, okay. Because?
A. Mostly ghosting. That's the readily apparent artifact.
Q. Okay, we're now at about 11 minutes and five seconds. Let me ask you whether or not you can form a view about whether, had you been there, you would have found this picture to be acceptable?
A. If you don't mind, I will wait until we get to a different video segment.
Q. Sure.
A. Okay.

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Q. Do you recall the question?
A. Yeah, I'm waiting for them to shift off the news footage. Probably unacceptable.
Q. Because?
A. Can you go back just for a second.
Q. Sure.
A. That's fine. Go ahead and roll that.
Because of ghosting.
Q. We're now at about 16:30. Let me ask you whether, viewing this videotape, you can form a view about whether or not, had you been there, you would deemed the picture to be acceptable?
A. Let me say this one is too close to call.
Q. You can't form a judgment either way about whether you would have deemed it to be acceptable had you been there on the spot?
A. That's correct.
Q. Would viewing any more give you any more ability to decide?
A. No.
Q. We're now at about 21:58. Back to Judge Judy. Can you form a view from seeing this videotape about whether or not you would have judged the picture to be acceptable had you been there?
A. May I ask you a question about the videotapes?

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Q. Yes.
A. Are these videotapes in separate segments you're showing me all taken at different locations at different times.
Q. Yes.
A. There are enough defects on this to probably put it in the unacceptable category.
Q. And you can form that view even though it's a videotape?
A. I'm making that judgment based on what I'm seeing here on this videotape. It has enough defects evident that I don't think seeing it in person would have diminished those defects any since this is bad enough that I would probably call it unacceptable.
Q. If this were the actual picture that you were watching live, what TASO number would you give to this?
A. Probably 5. That's impairment, definite objectionable, quality poor.
Q. We are now at 27 minutes and 27 seconds. Let me ask you whether viewing this videotape you can form a view whether had you been there in person you would have deemed the picture to be acceptable?
A. This was right in that area where it's too close to call.
Q. You're not certain whether you would have

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believed it to be acceptable or unacceptable had you be there.
A. On the gross differentiation between acceptable and unacceptable, I cannot make a decision.
Q. What are the reasons why you're unable to be confident that it would have been acceptable?
A. Because there were impairments readily noticeable in the picture.
Q. Looking at the picture right now, what are the impairments that you're observing?
A. Is this the same location?
Q. Yes.
A. There's definite ghosting, that's quite apparent. It's multiple and repeating ghosting. There's also -- that's the most prevalent artifact. There appears to be some kind of noise or color artifact. You can see the color flickering and things down that. Whether there's as a result of the videotape process or the videotape dubbing or something like that, I'm not sure. But the ghosting probably is not an artifact from the videotape and that's probably the primary defect that I see on the picture.
Q. What amount of ghosting in your view consistent with an acceptable picture?
A. Ghosting that is just perceptible, but not annoying.

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Q. We're now at 33:18. Back to Judge Judy yet again.
MR. DEUTSCH: I'm disappointed in the programming.
BY MR. OLSON:
Q. Can you form a view based on viewing this videotape footage about whether you had been there live and in person you would have found the picture to acceptable?
A. I need to ask you another question.
Q. Yes.
A. This is the third time we have seen this program. Was this on the same day?
Q. I don't know. But they're different locations.
A. They are different locations. Having seen this same thing twice before, I come back to it and I see the same -- approximately the same degree of impairments, primarily the ghosting, but in some cases color impairments like on the solid color backgrounds that you see there.
Q. So are you able to form a view about whether this picture would have been acceptable to you had you been there?
A. This is probably far enough down in the quality rating that I would put it below the acceptable division.
Q. So on the videotape that we have been looking at which I represented to you consists of segments that were taken at or near the locations of various of the subscribers

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you visited in Missoula, you've not seen any footage that would enable you to be confident that you would have found the picture acceptable had you been there?
A. I think there was one. Maybe it wasn't on this particular type.
MR. DEUTSCH: The transcript will show whether there was one or not.
THE WITNESS: I don't recall. We have looked at so many. I know there was one or two that were possibly acceptable and there were some in the middle ground where no decision could be made.
(Discussion off the record.)
BY MR. OLSON:
Q. Have you ever worked with a company called Communications Engineering Services?
A. Where are they located?
Q. In the Washington area.
A. As in Virginia.
Q. I don't know that. Somewhere in the Washington --
A. I may have. There are several that I think use similar names. If you can give me some more information of who was involved there or where located, I could probably say yes or no.
Q. Have you ever worked with Richard Vivey?
A. Yes.

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Q. What have you done with Mr. Vivey?
A. Mr. Vivey used to be an employee of mine, used to be a partner in our firm, and since then we have utilized, to a limited extent, some of his computer capabilities.
Q. What capabilities have you utilized?
A. Population count.
Q. What do you mean by that?
A. A computer tabulation of population by geographic area which we use for preparing FCC exhibits. FCC wants population counts on some of his exhibits. To some extent, we use services as well as others to do population counts.
Q. Does that involve Census Bureau blocks?
A. It's Census Bureau data. However, the data is available for the particular area we're in, it may involve blocks.
Q. Does that involve having data in which you know the latitude and longitude of a block centrally and the number of households associated with that block?
A. We do not have that information. That information may have been involved in the way he conducts the count.
Q. Is there other software that Mr. Vivey has provided to you?
A. Other software services?

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Q. Yes.
A. He doesn't provide the software. He provides the services. There are, but I'm not sure how -- whether we've utilized those services that he makes available.
MR. DEUTSCH: Listen to his question. His question was, as I remember it, about services he provided to you.
THE WITNESS: I can't say if there are or there aren't. We have utilized other services.
BY MR. OLSON:
Q. Do you recall ever asking Mr. Vivey to use his own proprietary software to generate signal propagation data for you?
A. I don't recall that.
Q. To your knowledge, is it the standard practice among broadcast engineers to rely on Mr. Vivey's software for signal propagation?
A. To my knowledge, I'm sorry, I cannot say that it is or is not standard practice in the broadcast industry, to rely on Mr. Vivey's software products.
Q. How about, is it standard practice at your firm?
A. No, it is not.
Q. In your description of your background, you mentioned, if I recall correctly, proof of performance tests?

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A. Yes.
Q. Is that something that one can do for a TV station?
A. There is a television proof of performance.
Q. What does proof of performance mean?
A. The FCC rules have over the years defined certain television station performance criteria having to do with video and oral transmission of the station that the station is required to do. That is defined in the FCC rules, what are the FCC television proof of performances?
Q. Do you recall where in the rules that is?
A. No, I would have to look it up.
Q. And in general, what procedures does one employ to do a proof of performance test for a television station?
A. Depending on the test, you would use instrumentation to make the measurement dictated in the test.
Q. Okay. What are the tests that are involved in proof of performance.
A. I don't know the current tests that are required, nor if they were stipulated in the rules. The FCC has relaxed the rules to a great extent and we are not involved in FCC television proof of performance testing.
Q. When was the last time you were involved in one?
A. We have not been directly involved in television

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proof of performance testing.
Q. Ever?
A. I can't speak for the entire history of the firm but me, never.
Q. And have you been involved in proof of performance for radio stations?
A. Yes.
Q. So the reference in your description of your background is principally about proof of performance tests on radio stations?
A. That's correct.
Q. Do you have a television set at home?
A. Yes.
Q. How do you -- do you receive local stations?
A. Yes.
Q. How do you get them?
A. Off air with an antenna.
Q. A rooftop antenna or a set-top antenna?
A. Neither.
Q. It's mounted on a tour outside my house.
Q. Where do you live?
A. Silver Spring.
Q. Are you able to get channel 9?
A. Yes.
Q. To you consider the picture quality to be

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acceptable?
A. Not at the present time.
Q. And channel 5?
A. Yes.
Q. And do you consider the picture quality to be acceptable?
A. Not at the present time.
Q. Why do you say that?
A. I have a problem with some of the equipment. It was hit by lightning.
Q. I see, and before it was hit by lightning, were you able to get an acceptable picture of the CBS and FOX stations in Washington?
A. Yes.
Q. How high is your antenna?
A. It's above the trees immediately beside it, so it's probably 30, perhaps 40 to 50 feet high.
Q. Is it on a pole attached to the top of your house or on a pole attached to the ground?
A. It's on a tower. It's a triangular cross-section tower that's sitting on the ground.
Q. Do you also subscribe to cable?
A. No.
Q. Do you have a satellite dish?
A. No.

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Q. Any of your neighbors have satellite dishes?
A. None that I've noticed.
MR. OLSON: I have no further questions.
MR. DEUTSCH: I'm going to take two minutes. If I take more, you start fidgeting.
EXAMINATION BY COUNSEL FOR DEFENDANT
BY MR. DEUTSCH:
Q. You were talking earlier about the FCC rules and procedures for measurement specified in them?
A. Yes.
Q. Can you tell me the purpose of FCC measurement procedures set out in their rules?
A. If I can recall, the general description of the rules, they define taking measurements to determine whether or not a community is within or without a particular grade of service, for example, city grade service.
Q. Do they provide a methodology for determining whether a particular household is receiving acceptable signal?
A. Particular, no. Not on a household by household basis.
Q. When you did work in Florida for WTOG, what was the purpose of the work?
A. WTOG was contemplating swapping facilities with another station and they wanted to know where the advantages

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or disadvantages of coverage might lie if they were to swap those facilities.
Q. So were you trying to determine general area coverage?
A. Not general area coverage, but to disclose where good coverage existed or where bad coverage might exist on a general, overall service area.
Q. And not at particular locations?
A. At particular locations, no, not at all.
Q. Now you were asked earlier about whether you were comfortable reporting results of signal strength measurements made on the street and you indicated you were. Do you remember that?
A. Yes, I did.
Q. If it is feasible at that particular household either to measure close to the house and/or to measure on the street, is there in your view a preferable location for measurement for determining household eligibility?
A. Considering other factors, it would be preferable to measure close to the household, close to the receiver antenna.
Q. And were your instructions to measure close to the household and the receiver antenna wherever possible?
A. My instructions and my plan was to measure it as close to the receiving antenna as practical and my

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instructions to others was to do the same.
Q. Looking at your report, Exhibit 1 and that table 2 and looking at the receiver input volts you reported, and bearing in mind your discussion earlier about the assumptions that lie between receiver input volts and signal strength in the air, are there locations at which you measured and determined receiver input volts, where based upon those measurements you can state with some degree of confidence that a household is not receiving Grade B signal strength in the air.
A. Only those with some degree of confidence is the way you put it, that are substantially below the Grade B level, giving adequate allowance for other factors that may exist
Q. So that, for example, locations 2 and 3 where the input volt location is 48.6, you would say it's too close to call.
A. Yeah, that's probably too close to call.
MR. DEUTSCH: That's all I have.
FURTHER EXAMINATION BY COUNSEL FOR PLAINTIFF
BY MR. OLSON:
Q. Which are the locations on table 2 which you are prepared to tell the court in your professional opinion as a broadcast engineer that the signal intensity in the air above the house is below Grade B.

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A. If what you've asked is a little different than what we were just discussing, there are -- let me just go down the list here. There are a couple of locations that say are far enough below the signal level I would expect in the location with the equipment I was observing being used at the household location that, it's far enough below the Grade B contour value that I would feel that the Grade B contour value did not exist at that antenna, for example, number 9, number 10 and perhaps numbers 5, but we're getting close to -- the closer we get to the Grade B level, the voltage level that might be present at the receiver based on the average antenna, the less and less certain I would be making, B, making that presumption that there's no great.
Q. You're making an assumption, are you not, that the gains and losses of the household antenna systems at these homes are within a certain range; correct.
A. No, I'm not.
Q. Well, if the -- suppose that at location number 10, for example, suppose that there were on the order of 60 dB of loss in there?
MR. DEUTSCH: How many dB?
BY MR. OLSON:
Q. 60 -- in their own antenna and transmission line, if that were the case, would you be able to reason from the receiver input voltage of 32 to conclude it was below

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Grade B, above the --
A. Do you want a yes, no answer.
Q. Yes.
MR. DEUTSCH: Can you give a yes, no answer.
THE WITNESS: It would be meaningless. Given that value -- restate the question.
BY MR. OLSON:
Q. What are the -- if there were a signal of let's say 97 dB in the air at location number 10, for example, what are the range of receiver input volts that we would expect to find, given whatever assumptions you're making about the household antenna?
A. 97 dB.
Q. DBu/m?
A. For this channel.
Q. For this channel at this location?
A. It could conceivably be as high as 30 or 40 dB, more likely 20 to 30 dB range, depending on the equipment employed.
Q. Is it plausible to you that there could be 97 dBu/m in the air and have receiver input volts of 32 dBu?
A. Yes. If the antenna line is disconnected.
Q. How about if it's in poor condition?
A. It's very difficult to say. You're talking about attenuation levels that approach astronomical.

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Q. I'm just trying to find out whether you are giving testimony that you consider to be reliable, in your opinion as a professional broadcast engineer, that you can be confident that the signal level at location 10 in the air is below Grade B intensity?
MR. DEUTSCH: Will you the witness distinguish between confident and certain.
BY MR. OLSON:
Q. Confident. I want to know whether your confident information was.
A. Again? I'm sorry.
Q. Whether based on the receiver input volts of 32 that you measured inside the house at location number 10 in Missoula you are confident and prepared to tell the court that the signal intensity in the air at that location is below Grade B intensity?
MR. DEUTSCH: I would like to leave out the phrase, prepared to tell the court, because I don't know if the witness has any -- that encourages ambiguity. Neither of us knows what the witness thinks that means. If you just phrase it as confident, I think the witness can address it without the ambiguities of court being --
BY MR. OLSON:
Q. Let me ask the question that I asked, if you can remember it after that?

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MR. OLSON: Can you read back the question, please?
THE REPORTER: "Whether based on the receiver input volts of 32 that you measured inside the house at location number 10 in Missoula you are confident and prepared to tell the court that the signal intensity in the air at that location is below Grade B intensity?"
THE WITNESS: As asked, the answer is no.
BY MR. OLSON:
Q. Okay, let me ask you to take a look at a document, if you don't mind my coming around. I will not make an exhibit because it is already part of the record in the case. This is the supplemental expert report of Jules Cohen. Directing your attention to Page 28, table 2. And this table, I take it you have not seen this before?
A. No I haven't.
Q. This table, I will represent to you, reflects the voltage and field intensity data that were collected by another engineer who went to the locations that you went to in Missoula and you will see that according to this table which I will represent to you to be the findings that this engineer made and the findings that you made, you found 32 DBuv at location number 10 and this engineer using outdoor equipment found 91 DBuv at that location which Mr. Cohen has calculated, and you don't have to accept this, but

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for all purposes, what Mr. Cohen has calculated to be the equivalent of signal intensity of 97.9 at that location.
But let me ask you whether you have any reason to doubt as you sit here that another engineer could have measured 91.1 volts at the bottom of the transmission line from a standard antenna at that location.
MR. DEUTSCH: I'm going to object to your saying at that location. You don't know that in fact the two measurements were made at the same location at all.
MR. OLSON: You have your speech.
MR. DEUTSCH: I object to the same location part of it. As to whether he has any basis, he doesn't know and hasn't been shown the --
MR. OLSON: This is enough of a speech, Mr. Deutsch. You have made your objection clear. This is totally contrary to the rules. Do you recall the question sir?
THE WITNESS: Would you please restate the question?

MR. OLSON: Can you read back the last question, please.
THE REPORTER: "Question: But let me ask you whether you have any reason to doubt as you sit here that another engineer could have measured 91.1 volts at the bottom of the transmission line from a standard antenna at

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that location."
THE WITNESS: The question asks, the answer has to be, no, I don't that someone could have measured 91.9 dB relative to a microvolt at that location.
BY MR. OLSON:
Q. Mr. Deutsch asked you about testing a general area as opposed to testing particular locations.
A. Yes.
Q. Am I right in understanding that the way one develops a sense of an area in general is to acquire data at particular locations?
A. For the purpose of what, predicting coverage of an area?
Q. For the purpose of evaluating a station's coverage over an area. The only way to do that is to take data at particular locations and then look at them as a whole.
A. No, that's not the only way.
Q. What other ways are there?
A. To attempt to predict the coverage and do a comparative basis, for example, two stations or whatever you're trying to investigate.
Q. I'm assuming we're talking about field measurements here as opposed to sitting in an office and doing predictions. If one is going out to do field

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measurements to try to develop a sense of the area in general, the way one does that is by gathering data at particular points and then looking at those data as a whole, correct?
A. For the coverage of the station?
Q. Yes.
A. No. With explanation?
Q. Please.
A. It would be far too laborious and expensive to do that task for a station. You would spend months doing it. It is not a practical method to do it and has never been considered by me.
Q. I think we are talking past each other. If one is gathering field data about the signal intensity or picture quality or other features of a particular station, you have to go some particular place to gather data; correct.
A. You said for the entire coverage.
Q. I'm not saying every single location, entire coverage?
A. A specific spot?
Q. I am saying when you gather data, you have to go to some particular places, however they may be selected and collect data at some particular locations; correct?
A. You're going to measure data and measure the

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field, you go to a location in the field and make a measurement.
Q. You don't just record in general in the entire community. You record at certain particular locations; correct?
A. If you go to the field to make a measurement, you go to one location and you make a measurement at that one location. It depends on why you want to make the measurements. If you're trying to find out what the field is in that location, fine, you've done that. You've gone to the location and made a measurement.
Q. And when you're using data from particular locations to develop a sense of the station's coverage in a broader area, what you do is to reason from the data at particular locations in the aggregate to a general sense of the station's coverage; correct?
A. To make that leap from one location to an entire coverage area is what you seem to be implying.
Q. I'm not suggesting your making a leap from one location. What I am saying is, for example, if in the Washington area you chose a hundred particular locations chosen by some means and you took measurements at those 100 particular locations scattered across the area, that you would then look at those data as a whole from those 100 locations to try to develop your sense of the coverage of

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that particular station in the Washington area as a whole?
A. Well, I have problems with the way you describe it when you say as a whole, because what you would be defining is not the coverage as a whole, but as the coverage as a continuum as it extends across the area, because the values are going to be different from point to point and then from area to area. So you would look at all of the data, not the data as a whole, but the entire mass of data and try to extract from it some sense of what the coverage is doing and you move throughout an area.
Q. The mass of data, each of which would have been taken at some particular location?
A. Each, by definition, they are all taken at particular locations.
Q. Is it possible to do a hundred foot run in your own driveway?
A. At my house, you're talking about?
Q. Yes.
A. No.
Q. How about the driveways of your neighbors?
A. No.
Q. In your experience traveling around the country, is it possible to do 100 foot runs in most driveways?
A. I would -- based on general observations, no.

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MR. OLSON: I have nothing else.
(Whereupon, at 3:05 p.m., the instant deposition concluded.)

_____
Signature of the Witness

SUBSCRIBED AND SWORN to before me this _____ day of _____, 19__.

_____
NOTARY PUBLIC

My Commission expires: _____

Concordance Report

Inique Words: **2,161**

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Cover Pages = **0**

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Dates **ON**

Includes Pure Numbers

Possesive Forms **ON**

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UNITED STATES DISTRICT COURT

SOUTHERN DISTRICT OF FLORIDA

MIAMI DIVISION

CBS INC., ET AL.,	.	CASE NO. 96-3650-CIV-NESBITT
	.	
PLAINTIFFS,	.	MIAMI, FLORIDA
	.	AUGUST 13, 1998
V.	.	11:53 A.M.
	.	
PRIMETIME 24 JOINT VENTURE, ET AL.,	.	
	.	
	.	
DEFENDANTS.	.	
. . . . .	.	

TRANSCRIPT OF TRIAL PROCEEDINGS HAD

BEFORE THE HONORABLE LENORE C. NESBITT,

UNITED STATES DISTRICT JUDGE.

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VOLUME 4

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PROCEEDINGS RECORDED BY MECHANICAL STENOGRAPHY, TRANSCRIPT PRODUCED BY COMPUTER.

MR. OLSON: I'M SORRY, I SHOULD START NOW?

THE COURT: YES, ISN'T THAT WHAT YOU WANT?

MR. OLSON: YES, THAT'S FINE.

THE COURT: YES, THAT'S WHAT I THINK IS THE BETTER COURSE. THEN WHEN I BREAK, YOU CAN BREAK.

MR. DEUTSCH: I DON'T WANT TO PRE-EMPT YOUR CROSS, BUT CAN I SHUT OFF THE T.V.'S?

MR. OLSON: CERTAINLY.

CROSS EXAMINATION

BY MR. OLSON:

Q. MR. CULVER, FIRST OF ALL, GOOD AFTERNOON. I'M TOM OLSON. YOU RECALL WE MET AT YOUR DEPOSITION.

A. GOOD AFTERNOON, TOM. YES, I RECALL.

Q. MR. DEUTSCH JUST SHOWED YOU TELEVISION PICTURES THAT WERE RECORDED AT SEVEN LOCATIONS IN MISSOULA, IS THAT RIGHT?

A. THAT'S CORRECT.

Q. AND THERE WERE TWO OF THOSE THAT WERE RECORDED USING STANDARDIZED EQUIPMENT THAT YOU BROUGHT TO MISSOULA OR THAT YOU GOT IN MISSOULA AND THAT YOU HOOKED UP YOURSELF, CORRECT?

A. YES, THAT'S CORRECT.

Q. AND THOSE WERE -- IF I'M LOOKING AT DEFENDANTS' 129-B, THOSE ARE LOCATIONS FOR FOUR AND SIX. THOSE ARE THE ONES WHERE YOU WERE USING STANDARDIZED EQUIPMENT OF KNOWN CHARACTERISTICS OUTDOORS, CORRECT?

A. THE VIDEO RECORDINGS WERE MADE USING TYPICAL RECEIVER ANTENNAS, BUT NOT OF KNOWN CHARACTERISTICS.
Q. BUT IT WAS A NEW ANTENNA THAT YOU HAD JUST BOUGHT, RIGHT?
A. THAT'S CORRECT.
Q. AND WERE YOU USING NEW TRANSMISSION LINE?
A. THAT'S CORRECT.
Q. AND DO YOU HAVE ANY REASON TO BELIEVE THAT A BRAND NEW ANTENNA, BRAND NEW TRANSMISSION LINE WOULD HAVE ANY MAJOR DEFECTS IN IT?
A. NO. AND WHAT WE USE DID NOT INDICATE THAT IT HAD ANY DEFECTS.
Q. SO THOSE ARE THE TWO PLACES OF THE SEVEN THE COURT HAS JUST SEEN WHERE YOU WERE USING WHAT YOU KNEW TO BE OR YOU BELIEVED TO -- STRIKE THAT.

THOSE ARE THE TWO LOCATIONS WHERE YOU KNEW, FROM HAVING SET UP THE ANTENNA AND TRANSMISSION LINE YOURSELF, THAT YOU HAD A -- NOT JUST A FUNCTIONING, BUT A FULLY AND PROPERLY FUNCTIONING ANTENNA AND TRANSMISSION LINE SYSTEM, CORRECT?
A. THOSE ARE THE TWO LOCATIONS THAT I SET UP MY OWN ANTENNA SYSTEM.
Q. AND THOSE ARE ALSO THE TWO LOCATIONS AT WHICH YOU RATED THE PICTURE QUALITY TO BE ACCEPTABLE OR BETTER, CORRECT?
A. THEY WERE RATED T.A.S.O. RATING TWO.

Q. AND THOSE ARE THE ONLY LOCATIONS OF THE SEVEN WHERE YOU CONDUCTED OUTDOOR FIELD INTENSITY MEASUREMENTS, CORRECT?
A. THAT'S CORRECT.
Q. AND IN ONE CASE YOU MEASURED 83.2 D.B.U.'S, CORRECT?
A. THAT'S CORRECT.
Q. AND WE COMPARE THAT TO A GRADE B MINIMUM OF 56 FOR THIS CHANNEL?
A. YES.
Q. AND THAT'S MORE THAN TEN TIMES AS STRONG AS GRADE B INTENSITY, MINIMUM GRADE B INTENSITY, CORRECT?
A. WELL, IT -- I WOULD HAVE TO DO THE CALCULATIONS, BUT IT'S SOMETHING ON THE ORDER OF MORE THAN TEN TIMES AS STRONG.
Q. AND THE SIGNAL STRENGTH OF 102.2, THAT'S ACTUALLY MORE THAN A HUNDRED TIMES AS STRONG GRADE B INTENSITY, ISN'T THAT RIGHT?
A. NO, IT DOESN'T QUITE -- FIFTY -- YES, JUST OVER, JUST OVER A HUNDRED TIMES.
Q. SO THE TWO LOCATIONS WHERE YOU USED YOUR OWN EQUIPMENT AND MEASURED OUTDOORS THAT WE HAVE JUST SEEN, IN BOTH OF THOSE YOU GOT A GOOD PICTURE AND IN BOTH OF THOSE YOU MEASURED AT LEAST TEN TIMES AS STRONG GRADE B INTENSITY, IS THAT CORRECT?
A. THAT'S CORRECT.
Q. NOW, LET ME, IF I COULD, IF ONE OF MY COLLEAGUES WOULD

SET UP A CHART FOR ME WITH A BLANK PAGE, I DON'T WANT TO TAKE THE TIME TO DO THAT.

YOU WENT ALL THE WAY FROM WASHINGTON TO MISSOULA, MONTANA, TO DO THE MEASUREMENTS YOU JUST DESCRIBED, RIGHT?

A. YES.

Q. AND YOU HAD AT EACH OF THESE HOMES, YOU HAD THE EQUIPMENT THAT YOU WOULD HAVE NEEDED TO DO YOUR VERSION OF OUTDOOR SIGNAL INTENSITY MEASUREMENTS, CORRECT?

A. YES.

Q. SO YOU COULD, AFTER DOING THESE INDOOR MEASUREMENTS, YOU COULD HAVE GONE OUTSIDE AND --

THE COURT: SIR, YOU'RE GOING TO HAVE TO PUT THIS WHERE IT WAS YESTERDAY SO THE WITNESS -- I'LL STEP DOWN HERE.

THE WITNESS: I CAN SEE FAIRLY WELL FROM HERE.

THE COURT: ALL RIGHT. THAT'S FINE.

SO I'LL STEP DOWN IN A MINUTE.

BY MR. OLSON:

Q. YOU COULD HAVE USED AT EACH LOCATION YOU WENT TO IN MISSOULA, IN THOSE LOCATIONS WHERE YOU WENT INDOORS, YOU COULD HAVE GONE OUTSIDE AND USED YOUR STANDARDIZED EQUIPMENT TO CONDUCT FIELD INTENSITY MEASUREMENTS, IS THAT CORRECT?

A. YES.

Q. AND IF YOU HAD DONE THAT, THEN THE COURT WOULD HAVE BEEN ABLE TO COMPARE WHAT YOU FOUND INSIDE THE HOUSE WITH

WHAT YOU MEASURED OUTSIDE THE HOUSE, IS THAT CORRECT?
A. YES, IT COULD.
Q. BUT YOU DID NOT GO OUTSIDE AND DO A SIGNAL INTENSITY MEASUREMENT USING YOUR OWN EQUIPMENT AT THOSE LOCATIONS WHERE YOU WERE ABLE TO GO INSIDE, IS THAT CORRECT?
A. THAT'S CORRECT.
Q. AND THAT'S SOMETHING THAT YOU DID BECAUSE YOU WERE CARRYING OUT A PROGRAM THAT THE LAWYERS HAD DEVISED FOR YOU, IS THAT CORRECT?
A. NO, IT'S NOT.
MR. DEUTSCH: OBJECTION.
THE COURT: OVERRULED.
A. NO, THAT'S NOT CORRECT.
Q. BUT YOU CERTAINLY COULD HAVE GONE OUTSIDE TO DO THOSE MEASUREMENTS, CORRECT?
A. YES, OF COURSE.
Q. WE ARE IN AGREEMENT ON THAT.
HOW LONG WOULD IT HAVE TAKEN YOU, HOW MUCH EXTRA TIME AT THOSE LOCATIONS WOULD IT HAVE TAKEN YOU TO DO AN OUTDOOR SIGNAL INTENSITY MEASUREMENT?
A. IT'S HARD TO SAY AT EACH PARTICULAR LOCATION, BUT I WOULD SAY, ON AVERAGE, PERHAPS I WOULD HAVE ALLOWED ABOUT A HALF HOUR TO MAKE SUCH A MEASUREMENT.
Q. SO ALL TOLD, AT THE 11 LOCATIONS WHERE YOU DID ONLY INDOOR MEASUREMENTS, IT WOULD HAVE BEEN MAYBE

FIVE-AND-A-HALF HOURS TO DO OUTDOOR MEASUREMENTS?
A. I WOULD HAVE ALLOWED THAT MUCH TIME AS AN ESTIMATE. IT MAY HAVE BEEN MORE, IT MAY HAVE BEEN LESS.
Q. NOW, YOU RECALL WHEN I DREW A CHART FOR MR. COHEN ABOUT THE WAY IN WHICH ENGINEERS MEASURE FIELD STRENGTH, WERE YOU IN THE COURTROOM AT THAT TIME?
A. WAS THIS THE HOUSE AND THE ROAD OUT FRONT AND THE --
Q. NO, A DIFFERENT CHART. LET ME COME AND DRAW IT FOR YOU UP THERE.
(DISCUSSION HAD OFF THE RECORD.)
BY MR. OLSON:
Q. WHAT I WOULD LIKE TO DO, MR. CULVER, IS TO FIND OUT WHETHER THERE IS ANY DISAGREEMENT AMONG THE ENGINEERS THAT THE COURT WILL HEAR FROM ABOUT HOW SIGNAL INTENSITY IS MEASURED.
NOW, THE WAY IN WHICH ENGINEERS MEASURE SIGNAL INTENSITY IS AS FOLLOWS -- AND I'M JUST GOING TO DRAW FOR A MOMENT.
MR. DEUTSCH: I'M GOING TO OBJECT UNLESS YOU RECHARACTERIZE THAT IN THE FORM OF AN ASSUMPTION INSTEAD OF TESTIMONY.
THE COURT: OVERRULED.
BY MR. OLSON:
Q. NOW, LET ME ASK YOU, MR. CULVER, AM I CORRECT THAT THE WAY IN WHICH ENGINEERS MEASURE FIELD INTENSITY, INCLUDING

THE WAY THAT YOU MEASURED FIELD INTENSITY WHEN YOU DID SO OUTDOORS, IS TO START WITH AN ANTENNA OF KNOWN CHARACTERISTICS, IS THAT CORRECT?

A. YES.

Q. AND THAT MEANS, FOR EXAMPLE, YOU KNOW WHAT THE GAIN IS, IS THAT RIGHT?

A. THAT'S CORRECT.

Q. FOR EXAMPLE, AN ENORMOUS ANTENNA MIGHT HAVE MORE GAIN THAN ONE THAT HAS VERY FEW ELEMENTS, IS THAT RIGHT?

A. WELL, THAT'S CORRECT. BUT IN MY PROCEDURE, I DIDN'T USE A GAIN ANTENNA, I USE A DIPOLE ANTENNA, THE REFERENCE ANTENNA.

Q. RIGHT. AND THAT'S AN ANTENNA THAT DOES NOT -- STRIKE THAT.

SO THEN IN ADDITION TO THE KNOWN ANTENNA, YOU ALSO HAVE A TRANSMISSION LINE OF KNOWN CHARACTERISTICS, ISN'T THAT RIGHT?

A. THAT'S CORRECT.

Q. AND THAT MEANS THAT YOU KNOW THAT THERE'S NOT -- YOU KNOW EXACTLY HOW MUCH SIGNAL IS BEING LOST ALONG THE TRANSMISSION LINE, IS THAT RIGHT?

A. THAT'S CORRECT.

Q. AND YOU CAN RULE OUT THE POSSIBILITY THAT THERE IS LEAKAGE GOING ALONG THE TRANSMISSION LINE FOR SOME REASON, RIGHT?

A. OKAY. I'LL ACCEPT THE TERM "LEAKAGE," I UNDERSTAND WHAT YOU'RE TRYING TO SAY.

Q. OR THAT THERE IS SOME OTHER REASON WHY THE SIGNAL IS GETTING WEAKER WHEN IT GOES DOWN FROM THE ANTENNA DOWN TO THE BOTTOM OF YOUR TRANSMISSION LINE, RIGHT?

A. YES. THE TERM'S "ATTENUATION."

Q. SURE.

AND THEN YOU HAVE A CALIBRATED METER AT THE BOTTOM, CORRECT?

A. CORRECT.

Q. AND YOU USE THAT TO MEASURE THE VOLTAGE, RIGHT?

A. TO MAKE A MEASUREMENT, THAT'S WHAT YOU USE.

Q. AND THEN YOU'RE ABLE TO USE A FORMULA, BECAUSE YOU KNOW THE CHARACTERISTICS OF THE ANTENNA AND YOU KNOW THE CHARACTERISTICS OF THE TRANSMISSION LINE, YOU'RE ABLE TO USE A FORMULA TO DETERMINE WHAT THE SIGNAL INTENSITY IS IN THE AIR, CORRECT?

A. THAT'S THE WAY YOU MEASURE THE SIGNAL ANTENNA, THE SIGNAL INTENSITY IN THE AIR.

Q. AND THAT'S THE WAY YOU'VE ALWAYS MEASURED SIGNAL INTENSITY IN THE AIR, CORRECT?

A. TO MAKE A MEASUREMENT, THAT'S THE PROCEDURE I USE.

Q. AND YOU'VE ALWAYS USED A KNOWN ANTENNA AND A KNOWN TRANSMISSION LINE, RIGHT?

MR. DEUTSCH: OBJECTION.

THE COURT: OVERRULED.

A. THAT'S THE METHOD I HAVE ALWAYS USED TO MAKE THE MEASUREMENT OF FIELD STRENGTH SIGNAL INTENSITY IN THE AIR.

Q. NOW, SUPPOSE THAT WE VARY OUR HYPOTHETICAL BY GOING FROM A KNOWN ANTENNA TO AN UNKNOWN ANTENNA. YOU NOW ARE MEASURING VOLTAGE AT THE BOTTOM OF A TRANSMISSION LINE. ARE YOU ABLE TO DETERMINE WHAT THE SIGNAL INTENSITY IS AT THE ROOF BY KNOWING WHAT THE VOLTAGE IS AT THE BOTTOM OF THE TRANSMISSION LINE?

A. NOT PRECISELY.

Q. AND SUPPOSE WE HAVE AN UNKNOWN TRANSMISSION LINE AND AN UNKNOWN ANTENNA. ARE YOU ABLE TO DETERMINE FROM THE VOLTAGE AT THE BOTTOM OF THE WIRE WHAT THE SIGNAL INTENSITY IS IN THE AIR WHERE THE ANTENNA IS?

A. NOT PRECISELY.

Q. AND IS IT EVEN LESS PRECISELY THAN IT WAS WHEN YOU ONLY DIDN'T KNOW ABOUT THE ANTENNA?

A. IT DEPENDS ON THE MAGNITUDES OF THE UNKNOWNS THAT YOU HAVE INSERTED, BUT THEY ARE CUMULATIVE, YES.

Q. AND IF -- ARE YOU ABLE BY LOOKING AT AN ANTENNA TO TELL WHAT ITS GAIN IS?

A. APPROXIMATELY, YES.

Q. AND ARE YOU ABLE, BY LOOKING AT A TRANSMISSION LINE, TO TELL WHETHER -- WHAT THE ATTENUATION IS ALONG THE TRANSMISSION LINE?

A. APPROXIMATELY, YES.
Q. AND CAN YOU SEE A TRANSMISSION LINE THAT'S GOING FROM SOMEBODY'S ANTENNA INTO THEIR HOUSE?
A. IN MISSOULA, IN MANY OF THE CASES, THE LINE WAS QUITE EVIDENT.
Q. AND YOU WERE ABLE TO SEE EVERY BIT OF THE LINE?
A. IN SOME CASES NOT EVERY BIT.
Q. AND YOUR TESTIMONY IS THAT ATTENUATE -- YOU'RE ABLE, AS A BROADCAST ENGINEER, TO DETERMINE BY LOOKING AT A TRANSMISSION WHAT ITS ATTENUATION IS?
A. ITS BASIC ATTENUATION.
Q. OKAY.
MR. OLSON: I CAN RETURN TO THE PODIUM FOR A MOMENT, YOUR HONOR.
THE COURT: YES.
MR. OLSON: YOUR HONOR, I THINK YOUR NEXT CASE MAY BE IN THE WINGS HERE.
THE COURT: OKAY. WE WILL THEN TAKE A BREAK UNTIL A QUARTER AFTER.
(RECESS TAKEN FROM 1:54 P.M. UNTIL 2:40 P.M.)
THE COURT: ALL RIGHT. MR. OLSON, GO AHEAD, PLEASE.
BY MR. OLSON:
Q. MR. CULVER, IS IT FAIR TO SAY THAT UNTIL THIS CASE, YOU HAVE NEVER BEFORE PURPORTED TO MEASURE FIELD INTENSITY BY

USING ANTENNAS OF UNKNOWN CHARACTERISTICS AND TRANSMISSION LINES OF UNKNOWN CHARACTERISTICS?

A. I HAVE NEVER MEASURED FIELD INTENSITY WITH ANTENNAS OF UNKNOWN CHARACTERISTICS.

Q. NOW, LET ME ASK YOU THIS. OTHER THAN WITH RESPECT TO THOSE LOCATIONS IN MISSOULA AT WHICH YOU OR YOUR ENGINEERS CONDUCTED OUTSIDE SIGNAL INTENSITY MEASUREMENTS, DO YOU HAVE ANY OPINION ABOUT THE SIGNAL INTENSITY AVAILABLE IN THE AIR NEAR THE LOCATIONS OF ANY OTHER PRIMETIME 24 SUBSCRIBERS?

MR. DEUTSCH: OBJECTION. I DON'T THINK I UNDERSTAND EXACTLY WHAT THE OTHER PRIMETIME SUBSCRIBERS REFERS TO. ARE YOU TALKING ABOUT PEOPLE HE DIDN'T, IN FACT, VISIT?

MR. OLSON: ACTUALLY, LET ME ASK A DIFFERENT QUESTION.

BY MR. OLSON:

Q. WOULD YOU AGREE WITH ME THAT IN THE -- THAT THE PURPOSE OF THE PROJECT THAT YOU DID FOR THIS CASE -- EXCUSE ME, YOUR HONOR -- WAS TO ASSESS THE QUALITY OF PICTURE SERVICE THAT THE PARTICULAR HOUSEHOLDS COULD RECEIVE?

A. GENERALLY, THE PURPOSE WAS TO ASSESS RECEPTION, QUALITY BEING A FACTOR OF THAT, YES.

Q. WELL, LET ME ASK YOU IF YOU RECALL MY ASKING YOU THE FOLLOWING -- WELL, FIRST OF ALL, DO YOU REMEMBER COMING TO MY OFFICE TO GIVE A DEPOSITION?

A. YES, CERTAINLY.
Q. AND DO YOU REMEMBER YOU WERE SWORN TO TELL THE TRUTH?
A. YES, OF COURSE.
Q. AND DID YOU MAKE YOUR BEST EFFORT TO TELL THE TRUTH?
A. MY BEST EFFORT, YES.
Q. AND YOU HAD THE OPPORTUNITY AFTERWARDS TO PREPARE AN ERRATA SHEET?
A. ERRATA, BUT NOT CHANGE OF CONTENT, YES.
Q. BUT DID YOU -- YOU TESTIFIED TRUTHFULLY DURING YOUR DEPOSITION, DID YOU NOT?
A. ABSOLUTELY.
Q. AND LET ME ASK YOU IF YOU REMEMBER MY ASKING YOU THE FOLLOWING QUESTION AND YOU'RE GIVING THE FOLLOWING ANSWER:

"THE PURPOSE OF THIS PROJECT WAS WHAT?

"ANSWER: THE PURPOSE OF THIS PROJECT WAS TO DETERMINE WHETHER THE INDIVIDUALS ENUMERATED COULD RECEIVE A QUALITY -- WHAT QUALITY OF SERVICE -- PICTURE SERVICE THE HOUSEHOLDS COULD RECEIVE."

YOU RECALL MY ASKING YOU THAT QUESTION AND YOU GIVING THAT ANSWER?
A. I DON'T RECALL IT VERBATIM, BUT IF THAT'S WHAT IN THE DEPOSITION, THAT'S WHAT STANDS.
Q. THAT IS YOUR TESTIMONY?
A. THAT -- IF THAT WAS IN MY DEPOSITION, THAT WOULD HAVE BEEN MY TESTIMONY.

MR. OLSON: YOUR HONOR, LET ME ASK IF IT WOULD BE -- IN THE EVENT THIS SITUATION ARISES AGAIN, I HAVE EXTRA COPIES OF MR. CULVER'S DEPOSITION IF THAT WOULD BE USEFUL TO THE COURT REPORTER FOR TRANSCRIPTION PURPOSES.

THE COURT: WELL, YOU MAY GIVE IT TO HER. LET'S HOPE THE TRANSCRIPT, LET'S HOPE IT DOESN'T ARISE AGAIN.

MR. DEUTSCH: WE ALSO -- IF YOU SAY "ARISES" -- I DON'T NEED A TRANSCRIPT, BUT IF YOU CAN GIVE ME THE PAGE AND LINE CITATIONS.

THE COURT: YES, YOU SHOULD HAVE DONE THAT.

MR. OLSON: CERTAINLY. THE ONE THAT I JUST READ, YOUR HONOR, IS FROM PAGE 115. IT'S A LITTLE DIFFICULT TO READ THE LINES. IT LOOKS LIKE IT'S BETWEEN 12 AND 18.

BY MR. OLSON:

Q. AND THE PURPOSE OF THE PROJECT WAS TO EVALUATE THE QUALITY OF PICTURE SERVICE THAT HOUSEHOLDS COULD RECEIVE WITH THEIR OWN EQUIPMENT, CORRECT?

A. THE PURPOSE OF THE PROJECT WAS EVALUATING RECEPTION WITH THEIR OWN EQUIPMENT, QUALITY BEING ONE OF THOSE FACTORS.

Q. BUT YOU WERE NOT EVALUATING WHAT QUALITY OF PICTURE SERVICE THEY WOULD BE CAPABLE OF RECEIVING WITH STANDARD EQUIPMENT, CORRECT?

A. WELL, THE PROJECT WAS TO EVALUATE THE ACTUALITIES OF RECEPTION THAT OCCURRED AT THE ENUMERATED HOUSEHOLDS.

Q. AND YOU'RE AWARE THAT THE WORDS OF THE STATUTE THAT IS BEING APPLIED HERE REFER TO HOUSEHOLD BEING CAPABLE OF RECEIVING A SIGNAL OF GRADE B INTENSITY, CORRECT?
A. I HAVE COME TO KNOW THAT, YES.
Q. AND WOULD YOU AGREE WITH ME, MR. CULVER, THAT IN GENERAL IN THIS CASE, IT'S NOT THE PURPOSE TO DETERMINE THE FIELD STRENGTH IN THE AIR BASED ON THE CONSUMER'S ANTENNA, THERE ARE TOO MANY VARIABLES TO ACCOUNT FOR.
MR. DEUTSCH: OBJECTION, THERE IS A LEGAL CONCLUSION REQUIRED THERE.
THE COURT: SAY THAT AGAIN, MR. OLSON. ASK THAT QUESTION AGAIN.
BY MR. OLSON:
Q. WOULD YOU AGREE WITH ME, MR. CULVER, THAT IN GENERAL IN THIS CASE, IT'S NOT THE PURPOSE TO DETERMINE THE FIELD STRENGTH IN THE AIR BASED ON THE CONSUMER'S ANTENNA, THERE ARE TOO MANY VARIABLES TO ACCOUNT FOR.
MR. DEUTSCH: I THINK WHAT IT IS APPROPRIATE IN THIS CASE TO DETERMINE IS FOR YOU TO DECIDE, NOT MR. CULVER, YOUR HONOR.
THE COURT: SUSTAIN AS TO PURPOSE.
BY MR. OLSON:
Q. WELL, LET ME ASK YOU, FROM YOUR PERSPECTIVE AS AN ENGINEER, NOT FROM A LEGAL PERSPECTIVE, BUT FROM YOUR PERSPECTIVE AS AN ENGINEER, WAS IT YOUR PURPOSE TO DETERMINE

THE FIELD STRENGTH IN THE AIR BASED ON THE CONSUMER'S ANTENNA?

A. NO.

Q. AND THAT'S BECAUSE THERE ARE TOO MANY VARIABLES TO ACCOUNT FOR, CORRECT?

A. I BELIEVE THAT THE -- THIS LINE OF QUESTIONING IS NOT UNDERSTOOD WELL HERE. YOU'RE MAKING A VERY BROAD JUMP FROM WHAT YOU HAVE JUST SAID TO, IF I MIGHT REFER BACK TO YOUR CHART HERE. "DETERMINE," DOES THAT MEAN MEASURE? IN THAT CASE, THE ANSWER IS NO. "DETERMINE," DOES IT MEAN WITH SOME RANGE OF PROBABILITIES OR ESTIMATE OR ERROR MARGIN? I WOULD HAVE TO DISAGREE THAT THERE CAN BE A DETERMINATION MADE, BUT NOT A MEASUREMENT MADE.

MR. OLSON: WELL, THE COURT'S INDULGENCE FOR A MOMENT?

THE COURT: YES.

(DISCUSSION HAD OFF THE RECORD.)

BY MR. OLSON:

Q. MR. CULVER, LET ME DIRECT YOUR ATTENTION TO DEFENDANTS' EXHIBIT 129-B. DO YOU HAVE THAT BEFORE YOU?

A. LET ME CHECK. YES, I DO.

Q. AND THAT'S THE TABLE THAT SHOWS SOME DATA THAT YOU COLLECTED IN MISSOULA ABOUT K.P.A.X., CORRECT?

A. YES, TABLE TWO.

Q. AND I NOTICE THAT LOCATION NUMBER 10 YOU MEASURED

RECEIVER INPUT VOLTS OF 32, IS THAT CORRECT?
A. THAT'S CORRECT.
Q. AND THAT'S GENERALLY QUITE A WEAK SIGNAL, CORRECT?
A. THAT IS WEAK.
Q. AND, MR. CULVER, IN FACT, THAT SIGNAL IS LESS THAN ONE-TENTH THE STRENGTH OF THE VOLTAGE THAT WOULD BE ASSOCIATED WITH GRADE B INTENSITY IF YOU HAD A PROPERLY FUNCTIONING ANTENNA, CORRECT?
MR. DEUTSCH: WELL, OBJECTION, THE RATIO'S INDEPENDENT OF WHAT KIND OF ANTENNA YOU'RE USING.
THE COURT: WELL, LET THE WITNESS ANSWER.
CAN YOU ANSWER THAT QUESTION?
A. IF WE NEED NOT MAKE THE LEAP BETWEEN ANTENNA PERFORMANCE OR PROPERLY FUNCTIONING OR ANYTHING, THAT LEVEL, IN ITSELF, IS LOW.
Q. AND VERY LOW, RIGHT?
A. WELL, IT DEPENDS ON HOW EFFECTIVE THAT SIGNAL IS IN PROVIDING A RECEPTION TO THE RECEIVER.
Q. WELL, LET ME ASK YOU WHETHER BASED ON THE RECEIVER INPUT VOLTAGE OF 32 THAT YOU MEASURED INSIDE THE HOUSE AT LOCATION NUMBER 10 IN MISSOULA, YOU ARE CONFIDENT AND PREPARED TO TELL THE COURT THAT THE SIGNAL INTENSITY IN THE AIR AT LOCATION NUMBER 10 IS BELOW GRADE B INTENSITY.
A. THAT SIGNAL LEVEL IS SIGNIFICANTLY BELOW GRADE B. AND CONSIDERING THE VARIABLES THAT MAY EXIST, THAT THERE IS A

GOOD CORRELATION BETWEEN THAT SIGNAL LEVEL AND WHAT MAY BE IN THE AIR ABOVE THE HOME, THAT THERE IS A HIGH LIKELIHOOD THAT THE SIGNAL LEVEL ABOVE THE HOME, ABOVE THE HOME, IS LOWER RATHER THAN HIGHER.

WHAT VALUE IT IS AT OR WHAT THRESHOLD I CANNOT SAY. I CAN ONLY SAY THAT BASED ON WHAT WAS SEEN AND WHAT WAS MEASURED, THAT SIGNAL LEVEL IN THE AREA IS LOW.

Q. WELL, ARE YOU TODAY TESTIFYING THAT THE SIGNAL INTENSITY IN THE AIR AT THE ROOFTOP AT THAT LOCATION IS BELOW GRADE B INTENSITY?

A. I'M TESTIFYING THAT THERE IS A CORRELATION AND IT IS LIKELY THAT IT IS BELOW. I HAVE NOT MEASURED IT, I NEVER SAID I MEASURED IT, YOU'VE CONFIRMED THAT I HAVEN'T MEASURED IT, BUT IT IS GOING TO BE LOW RATHER THAN HIGH.

Q. LET ME ASK AGAIN, DO YOU RECALL COMING TO MY OFFICE FOR A DEPOSITION?

A. AGAIN, YES.

MR. DEUTSCH: WE DON'T HAVE TO ASK HIM IF HE RECALLS IT EACH TIME.

BY MR. OLSON:

Q. LET ME ASK YOU WHETHER YOU RECALL MY ASKING YOU THE FOLLOWING QUESTION AND YOU GIVING THE FOLLOWING ANSWER.

MR. DEUTSCH: CAN YOU GIVE US A REFERENCE?

MR. OLSON: YES. THIS IS PAGE 172 OF MR. CULVER'S DEPOSITION, AND IT'S BETWEEN LINES THREE AND EIGHT.

BY MR. OLSON:

Q. "QUESTION: WHETHER BASED ON THE RECEIVER INPUT VOLTS OF 32 THAT YOU MEASURED INSIDE THE HOUSE AT LOCATION NUMBER 10 IN MISSOULA, YOU ARE CONFIDENT AND PREPARED TO TELL THE COURT THAT THE SIGNAL INTENSITY IN THE AIR AT THAT LOCATION IS BELOW GRADE B INTENSITY?"

AND THE ANSWER, AS ASKED, THE ANSWER IS "NO."

WAS THAT YOUR POSITION AT YOUR DEPOSITION?

A. IF YOU'RE READING IT, I AGREE WITH IT AND I DON'T DISPUTE IT.

Q. NOW, IN THAT FOOTAGE THAT YOU SHOWED FROM MISSOULA, YOU TALKED ABOUT SOMETHING CALLED MULTIPATH, IS THAT RIGHT?

A. THAT'S CORRECT.

Q. AND THAT'S ALSO SOMETIMES CALLED "GHOSTING"?

A. MULTIPATH CAUSES THE EFFECTS SEEN AS GHOSTING ON THE RECEIVER.

Q. AND AM I RIGHT THAT'S WHAT'S HAPPENING WITH GHOSTING, IS THAT, FOR EXAMPLE, IF YOU LIVE IN A MOUNTAINOUS AREA, THAT IF THE T.V. TOWER IS IN ONE LOCATION AND YOUR HOUSE IS HERE AND THERE IS A NEARBY MOUNTAIN, THAT THE SIGNAL GOES STRAIGHT TO YOUR HOUSE FROM THE TRANSMITTER, AND IT ALSO MIGHT BOUNCE OFF THE MOUNTAIN AND COME BACK TO YOUR HOUSE AT A SLIGHT DELAY?

A. THAT'S A GOOD LAY INTERPRETATION. IT'S DUE TO ANY

REFLECTED SIGNAL, AS THE TERM MULTIPATH MEANS MULTIPLE PATHS, ONE OR MORE EXTRA PATHS.

Q. AND THAT MULTIPATH OR GHOSTING CAN AFFECT PICTURE QUALITY, CORRECT?

A. YES, IT CAN.

Q. BUT THAT'S NOT AN ISSUE OF SIGNAL INTENSITY, CORRECT?

A. IT IS TO SOME EXTENT.

Q. BUT TO A SUBSTANTIAL EXTENT, YOU CAN HAVE A SIGNAL OF GRADE B INTENSITY AND HAVE A SIGNIFICANT AMOUNT OF GHOSTING, CORRECT?

THE WITNESS: MAY I TAKE A MOMENT TO EXPLAIN MULTIPATH?

THE COURT: WELL, YES -- BUT, WELL, NO. JUST ANSWER THAT QUESTION.

A. REPEAT THE QUESTION, PLEASE.

Q. IT IS POSSIBLE, IS IT NOT, TO HAVE A SIGNAL OF GRADE B INTENSITY AND YET TO HAVE A NOTICEABLE GHOSTING?

A. I'M GOING TO HAVE TO ANSWER THAT IT IS POSSIBLE ON AVERAGE AT SOME FREQUENCIES TO HAVE A SIGNAL OF GRADE B INTENSITY. BUT MULTIPATH, BY ITS NATURE, IS FREQUENCY SELECTIVE AND YOU COULD HAVE A SIGNIFICANT REDUCTION OR A SLIGHT INCREASE IN SIGNAL LEVEL AT SOME FREQUENCIES, INCLUDING A PICTURE CARRIER, THE COLOR CARRIER, THE ORAL CARRIER, OR SOMEWHERE WITHIN THE TELEVISION CHANNEL. THIS IS NOT A SIMPLE MATTER, I'M SORRY.

Q. AND DO I UNDERSTAND YOU TO SAY THAT SOMETIMES MULTIPATH COULD CAUSE AN INCREASE IN SIGNAL INTENSITY?
A. YES. BY AN ABSOLUTE MAXIMUM FOR TWO PATHS OF UP TO 6 D.B.
Q. SO YOU WOULD HAVE STRONGER FIELD INTENSITY BUT A WORSE PICTURE, IS THAT WHAT YOU'RE SAYING?
A. AT ONE FREQUENCY YOU MAY HAVE UP TO 6 D.B. GAIN, AT OTHER FREQUENCIES YOU COULD HAVE AN INFINITE LOSS OR A TOTAL LOSS OF SIGNAL.
Q. AT LOCATION NUMBER 10 THAT WE WERE DISCUSSING EARLIER, YOU DON'T KNOW WHAT ALL THE LOSSES AND GAINS ARE IN THE HOMEOWNER'S ANTENNA SYSTEM AND TRANSMISSION LINE, DO YOU?
A. I CANNOT ENUMERATE OR PUT A NUMBER ON THOSE LOSSES OR GAINS, THAT'S CORRECT.
Q. AND YOU DON'T KNOW WHAT THE SO CALLED ANTENNA FACTOR IS FOR THE ANTENNA ON THAT LOCATION, CORRECT?
A. NO, I DO NOT.
Q. SO YOU CANNOT TELL ME -- STRIKE THAT.
AND THE SAME IS TRUE AT EACH OF THE LOCATIONS IN MISSOULA AT WHICH YOU MEASURED INDOOR VOLTAGE, CORRECT?
A. I CANNOT CALCULATE THE SIGNAL LEVEL IN THE AIR ABOUT THE HOUSE FROM THE INDOOR VOLTAGE MEASUREMENTS.
Q. AND YOU CANNOT TELL ME WITH CONFIDENCE WHAT THE FIELD STRENGTH IS ABOVE THE HOMES AT THOSE LOCATIONS, CORRECT?
A. NOW WE ARE TALKING ABOUT SOMETHING OTHER THAN A

MEASUREMENT AND ASSESSMENT WITH SOME RELATIVE CONFIDENCE. I CAN SAY IN SOME CASES WITH SOME CONFIDENCE THAT, YES, I CAN. I'D HAVE TO SAY IN SOME CASES THAT THEY ARE TOO CLOSE TO CALL AND I CANNOT SAY WITH CONFIDENCE WHAT THE SIGNAL LEVEL IS.

Q. ISN'T IT TRUE, MR. CULVER, THAT FOR EACH OF THE LOCATIONS AT WHICH YOU DID INDOOR MEASUREMENTS, YOU CANNOT TELL THE COURT WITH CONFIDENCE WHAT THE FIELD STRENGTH IS IN THE AIR BASED ON THE VOLTAGE INSIDE THE HOUSE?

MR. DEUTSCH: I OBJECT. I THINK THAT QUESTION IS EXACTLY WHAT WAS JUST ASKED AND EXACTLY WHAT WAS JUST ANSWERED.

THE COURT: YES, I THINK SO, TOO.

MR. OLSON: WELL, YOUR HONOR, LET ME THEN ASK MR. CULVER ...

BY MR. OLSON:

Q. DO YOU RECALL MY ASKING YOU THE FOLLOWING QUESTIONS AND YOU GIVING THE FOLLOWING ANSWERS --

MR. DEUTSCH: PAGE AND LINE, PLEASE?

BY MR. OLSON:

Q. -- AT YOUR DEPOSITION?

MR. OLSON: LOOKING AT PAGE 51, AND THE LINES ARE ROUGHLY BETWEEN LINE FIVE AND LINE 19.

BY MR. OLSON:

Q. LET ME READ THESE QUESTIONS AND ANSWERS AND SEE IF THIS

IS STILL YOUR TESTIMONY.

"I'M ASKING YOU WHETHER YOU KNOW ALL OF THE GAINS, LOSSES AND GAINS IN THE HOMEOWNER'S ANTENNA SYSTEM AND TRANSMISSION LINE AT LOCATION 10 IN MISSOULA?

"ANSWER: NO, I DO NOT."

MR. DEUTSCH: AT THIS POINT, YOUR HONOR, I WOULD LIKE TO OBJECT BECAUSE THAT ISN'T REMOTELY IMPEACHING. THAT'S EXACTLY WHAT THE WITNESS SAID IN THE COURTROOM.

MR. OLSON: YOUR HONOR, I APOLOGIZE, I STARTED A LITTLE TOO EARLY. LINE NUMBER 12.

BY MR. OLSON:

Q. "SO CAN YOU TELL ME WITH CONFIDENCE WHAT THE FIELD STRENGTH AND D.B.U. OVER M IS AT LOCATION NUMBER TEN IN MISSOULA?

"ANSWER: NO, I CANNOT.

"QUESTION: AND IS THE SAME TRUE FOR LOCATION NUMBER 1?

"ANSWER: THE SAME IS TRUE FOR EVERY LOCATION, THE WAY YOU HAVE ASKED IT, THAT IS NOT REPORTED AS A FIELD STRENGTH MEASUREMENT."

IS THAT CORRECT?

A. I BELIEVE YOU READ IT ACCURATELY. I WILL TAKE YOUR WORD FOR IT. IN EVERY INSTANCE WHERE YOU QUOTE SOMETHING FROM MY TESTIMONY, THE QUESTION AND ANSWER, I WILL SUBMIT

THAT IT'S THE SAME. I HAVE NO REASON TO DOUBT IT.
Q. SO PUT ANOTHER WAY, FOR THE 11 LOCATIONS IN MISSOULA AT WHICH YOU DID ONLY INDOOR MEASUREMENTS, YOU DO NOT KNOW WHAT THE SIGNAL INTENSITY IN THE AIR IS ABOVE THOSE HOMES, CORRECT?
MR. DEUTSCH: OBJECTION, AGAIN, WE HAVE BEEN OVER THIS.
THE COURT: SUSTAIN.
BY MR. OLSON:
Q. MR. CULVER, THE F.C.C. DOES NOT SET FORTH ANY PROCEDURES FOR MEASURING, USING -- MEASURING SIGNAL INTENSITY USING ANTENNAS OR TRANSMISSION LINES OF UNKNOWN CHARACTERISTICS, DOES IT?
A. I HAVE TESTIFIED THEY SET FORTH ONLY ONE PROCEDURE USING MEASURED CALIBRATED EQUIPMENT.
Q. THAT IS KNOWN EQUIPMENT, CORRECT?
A. THAT IS ABSOLUTELY KNOWN, YES.
Q. AND THE F.C.C. DOES NOT SET FORTH ANY PROCEDURES FOR MEASURING OUTDOORS USING HANDHELD ANTENNAS 15 FEET ABOVE GROUND LEVEL, DOES IT?
A. IT DOES NOT SET FORTH SUCH A PROCEDURE.
Q. NOW, ALTHOUGH WE HAVEN'T HEARD ANYTHING ABOUT IT, THIS MORNING IN YOUR EXPERT REPORT YOU DESCRIBE A WHOLE SEPARATE SET OF MEASUREMENTS THAT WERE CONDUCTED UNDER YOUR SUPERVISION IN FRESNO, CALIFORNIA. DON'T YOU?

MR. DEUTSCH: WELL, I OBJECT. THIS IS CLEARLY NOT WITHIN THE SCOPE OF THE DIRECT.

THE COURT: HE DIDN'T TALK ABOUT FRESNO.

MR. OLSON: YOUR HONOR, HIS EXPERT REPORT --

MR. DEUTSCH: THE EXPERT REPORT WAS NOT OFFERED INTO EVIDENCE.

THE COURT: JUST LET ME HEAR --

MR. OLSON: YOUR HONOR, HIS EXPERT REPORT DESCRIBES TWO EQUAL SIZE MEASUREMENT PROGRAMS, ONE IN MISSOULA, ONE IN FRESNO, DOING THE SAME THINGS IN BOTH CITIES. HE'S CHOSEN NOT TO TESTIFY ABOUT ONE OF THEM, BUT THE OTHER ONE IS SET FORTH IN HIS EXPERT REPORT. IT INVOLVES THE SAME ISSUES. AND HE COLLECTED DATA THAT APPARENTLY PRIMETIME 24 HAS DECIDED NOT TO PRESENT TO THE COURT, BUT IT'S IN HIS EXPERT REPORT. AND IT'S CERTAINLY SOMETHING WE SHOULD BE ENTITLED TO INQUIRE ABOUT.

THE COURT: THE EXPERT REPORT WAS NOT SOUGHT TO BE INTRODUCED. I'M GOING TO LIMIT YOU TO THE INQUIRY THAT WAS BROUGHT UP ON DIRECT.

SO THE OBJECTION'S SUSTAINED.

MR. OLSON: OKAY, YOUR HONOR.

BY MR. OLSON:

Q. NOW, WHEN YOU WERE IN MISSOULA, YOU DIDN'T ALWAYS TAKE MEASUREMENTS RIGHT IN A HOUSEHOLD'S DRIVEWAY, DID YOU?

MR. DEUTSCH: I TAKE IT YOU'RE REFERRING -- LET ME

MAKE AN OBJECTION. YOU'RE REFERRING ONLY TO OUTDOOR MEASUREMENTS, OF COURSE.

BY MR. OLSON:

Q. WHEN YOU DID OUTDOOR MEASUREMENTS IN MISSOULA, YOU DIDN'T DO THEM ALL IN THE DRIVEWAY CLOSE TO THE HOUSE, CORRECT?

A. AS ASKED, THE ANSWER IS NO.

Q. AND YOU DID ONE MEASUREMENT 500 FEET AWAY FROM THE HOUSE, DIDN'T YOU?

A. I'M NOT SURE OF THE EXACT DISTANCE, BUT IT WAS IN THE DRIVEWAY AT THE FURTHEST EXTENT OF THE DRIVEWAY FROM THE HOUSE.

Q. LET ME JUST REMIND YOU, I'M SURE THAT THE NUMBERS MAY NOT BE IN YOUR MIND, BUT LET ME ASK YOU WHETHER THE FOLLOWING TESTIMONY FROM YOUR DEPOSITION IS CORRECT. PAGE 19, LINE 19.

"DID YOU DO FIELD INTENSITY MEASUREMENTS AT LOCATION SIX IN MISSOULA APPROXIMATELY 500 FEET SOUTH OF THE SUBSCRIBER HOME?

"ANSWER: YES."

A. THANK YOU FOR INCLUDING "APPROXIMATELY" BECAUSE THAT WAS I BELIEVE MY TESTIMONY, NOT PRECISELY 500, BUT THAT'S PRETTY CLOSE. THANK YOU.

Q. AND THAT TESTIMONY IS ACCURATE.

A. ABSOLUTELY.

Q. AND YOU DON'T BELIEVE THERE IS ANY ANYTHING IMPROPER ABOUT YOU DOING A MEASUREMENT IN THAT WAY, RIGHT?
A. UNDER THE CIRCUMSTANCES, WE COULD NOT GET CLOSER TO THE HOUSE.
Q. BUT IN LIGHT OF THE FACT THAT YOU COULDN'T GET CLOSER TO THE HOUSE, YOU TOOK THOSE MEASUREMENTS AND YOU SUBMITTED THEM TO THE COURT FOR THE PURPOSES OF THIS PROCEEDING, CORRECT?
A. YES.
Q. NOW, THE HOUSEHOLDS NUMBER FOUR AND SIX THAT WE SAW ON THE VIDEOTAPE, THE BASKETBALL GAME AND THE WOMAN IN THE CAR, DO YOU REMEMBER THOSE PICTURES?
A. WELL, I -- I MAY BE ABLE TO, BUT I CAN REFER TO THE NOTES IN FRONT OF ME REGARDING FOUR AND SIX.
Q. THE ONES WHERE YOU RATED THOSE AS GOOD PICTURES. LET'S ASSUME THAT THOSE HOUSEHOLDS SIGNED UP FOR PRIMETIME 24 BY TELLING SOMEONE THAT THEY DID NOT GET AN ACCEPTABLE PICTURE OVER THE AIR. WOULD THOSE ANSWERS BE A GOOD WAY TO DETERMINE THE FIELD INTENSITY ABOVE THE ROOFTOP AT THOSE HOMES?
MR. DEUTSCH: OBJECTION, THAT'S AMBIGUOUS. YOU MEAN GIVEN HIS INFORMATION OR ABSENT THAT INFORMATION?
BY MR. OLSON:
Q. GIVEN WHAT YOU KNOW ABOUT THE ACTUAL MEASUREMENTS YOU DID AT THOSE HOMES.

A. IF A HOMEOWNER WERE TRYING TO MAKE A DECISION BASED ON FIELD STRENGTH OVER THEIR HOME, I BELIEVE A HOMEOWNER WOULD, A LAY PERSON WOULD HAVE RELATIVELY LITTLE, IF ANY, INFORMATION TO MAKE THAT BASIS ON.

Q. YOU HAVEN'T GONE TO ANY OF THE LOCATIONS AT WHICH MR. COHEN'S ENGINEERS CONDUCTED MEASUREMENTS IN MIAMI OR PITTSBURGH OR BALTIMORE OR CHARLOTTE TO CONDUCT MEASUREMENTS IN OF FIELD INTENSITY, HAVE YOU?

A. NO, I HAVE NOT.

Q. HAVE YOU MADE ANY OTHER MEASUREMENTS AT THOSE LOCATIONS?

A. RELATIVE TO THIS CASE? NO.

Q. YOU WOULD AGREE WITH ME, WOULD YOU NOT, THAT THE OLD FASHION PREDICTED GRADE B CONTOURS THAT OFTEN APPEAR TO BE CONCENTRIC CIRCLES AROUND THE STATION ARE NOT THE BEST WAY TO PREDICT THE LIKELY FIELD INTENSITY AT A PARTICULAR LOCATION, CORRECT?

A. THEY HAVE THEIR LIMITATIONS AND THEY HAVE A UTILITY. THERE ARE BETTER METHODS AVAILABLE.

Q. AND YOU'RE FAMILIAR WITH THE LONGLEY-RICE METHOD, ARE YOU NOT?

A. QUITE.

Q. AND YOU'VE USED THAT IN YOUR OWN PRACTICE AS A PROFESSIONAL BROADCAST ENGINEER?

A. YES.

Q. AND YOU'VE SUBMITTED MAPS TO THE F.C.C. USING LONGLEY-RICE, HAVE YOU NOT?
A. THERE ARE MAPS THAT CONTAIN LONGLEY-RICE DETERMINED CONTOURS LEVELS ON THEM, YES. I WOULDN'T CALL THEM WHOLE CONTOUR MAPS, NO.
Q. BUT YOU'VE INCLUDED LONGLEY-RICE DATA ON MAPS YOU'VE PROVIDED TO THE F.C.C.
A. THAT'S CORRECT.
Q. AND WHEN YOU HAVE DONE LONGLEY-RICE MAPS FOR ANALOG TELEVISION STATIONS, YOU'VE CREATED THOSE USING A 50 PERCENT LOCATION FACTOR, CORRECT?
MR. DEUTSCH: AT THIS POINT, YOUR HONOR, I WOULD OBJECT. I DIDN'T OBJECT TO THE BACKGROUND QUESTIONS, BUT THIS WITNESS WAS NOT PROFFERED AND DID NOT TESTIFY AS AN EXPERT IN THIS COURTROOM ON LONGLEY-RICE MAPPING.
THE COURT: YES, BUT THAT'S RELEVANT TO THE ISSUES. SO THE OBJECTION'S OVERRULED.
YOU MAY ANSWER THAT.
A. THE QUESTION WAS 50 PERCENT?
Q. LOCATION FACTOR.
A. THAT'S CORRECT.
Q. AND WHEN YOU HAVE CREATED LONGLEY-RICE MAPS FOR SUBMISSION TO THE F.C.C., YOU'VE USED A 50 PERCENT TIME FACTOR, IS THAT RIGHT?
A. THAT'S CORRECT.

Q. AND YOU'VE ASSUMED A RECEIVING ANTENNA THAT'S 30 FEET HIGH, CORRECT?
A. THAT'S CORRECT.
Q. BY THE WAY, OF THE HOUSEHOLDS THAT YOU TESTED IN MISSOULA, DO YOU KNOW HOW MANY OF THOSE LONGLEY-RICE PREDICT TO GET THE SIGNAL GRADE B INTENSITY?
A. I DO NOT.
Q. AND IF YOU WENT TO A HOUSEHOLD THAT LONGLEY-RICE PREDICTED WOULD NOT GET A SIGNAL OF GRADE B INTENSITY AND YOU MEASURED IT TO NOT GET A SIGNAL OF GRADE B INTENSITY, WOULD THAT BE A SURPRISE TO YOU?
A. IF IT WAS NEITHER PREDICTED NOR MEASURED?
Q. YES.
A. WHAT WOULD BE SURPRISING WOULD BE IF THEY WERE RADICALLY DIFFERENT. IF THEY GENERALLY AGREE, IT WOULD NOT BE SURPRISING.
Q. AND LET ME ASK YOU TO ACCEPT AS AN ASSUMPTION THAT IF YOU DO A LONGLEY-RICE MAP IN THE WAY THAT YOU HAVE JUST DESCRIBED, NAMELY, 50 PERCENT LOCATION, 50 PERCENT TIME -- PARDON ME -- 30-FOOT RECEIVING ANTENNA, THAT THREE OF THE LOCATIONS AT WHICH YOU CONDUCTED MEASUREMENTS IN MISSOULA WERE ONES THAT THE LONGLEY-RICE METHOD PREDICTS NOT TO GET A SIGNAL OF GRADE B INTENSITY. IF YOU ASSUME THAT TO BE TRUE, THEN YOU WOULDN'T BE SURPRISED THAT THOSE THREE LOCATIONS DID NOT, WERE NOT MEASURED TO RECEIVE A SIGNAL OF GRADE B

INTENSITY, CORRECT?
A. AS I SAID, IF THERE'S NO WIDE VARIATION FROM EXPECTED VALUES OR UNUSUAL CIRCUMSTANCES, NO, I WOULD NOT BE SURPRISED.
Q. YOU REMEMBER THAT LOCATION NUMBER 10 WHERE YOU MEASURED THAT LOW SIGNAL STRENGTH OF 32 VOLTS INSIDE THE HOUSE?
A. YES.
Q. NOW, HAVE YOU BECOME AWARE THAT MR. COHEN, AS STATED IN HIS SUPPLEMENTAL REPORT, THAT HE SENT AN ENGINEER TO THAT VERY SAME HOUSE?
A. WELL, I'M AWARE HE SENT ENGINEERS TO THESE SAME RESIDENCES, YES.
Q. WELL, LET ME ASK YOU TO ASSUME THAT MR. COHEN SENT AN ENGINEER TO THAT SAME HOUSE. AND INSTEAD OF MEASURING THE VOLTAGE FROM AN UNKNOWN ANTENNA INSIDE THE HOUSE, HE MEASURED THE VOLTAGE FROM A KNOWN AND KNOWN TO BE PROPERLY FUNCTIONING ANTENNA OUTSIDE THE HOUSE. DO YOU HAVE THAT ASSUMPTION?
A. YES, I WILL ACCEPT THE ASSUMPTION.
Q. AND LET ME ASK YOU TO ACCEPT THAT THE ENGINEER WORKING FOR MR. COHEN FOUND A VOLTAGE ONE THOUSAND TIMES STRONGER THAN WHAT YOU MEASURED WHEN YOU WERE MEASURING AT THE BOTTOM OF THE LINE INSIDE THE HOUSE. DO YOU HAVE THAT ASSUMPTION?
A. I HAVE THAT ASSUMPTION.
Q. HAVE YOU GONE BACK TO THAT HOUSE SINCE HEARING ABOUT

MR. COHEN'S MEASUREMENTS TO CHECK ON THE STRENGTH OF SIGNAL THAT YOU HAD MEASURED USING OUTDOOR EQUIPMENT?

A. NO, I HAVE NOT.

Q. WHEN YOU WERE AT THE HOUSES IN MISSOULA, YOU MADE REALLY CAREFUL NOTES ABOUT THE PARTICULAR SETUPS THAT THE HOUSEHOLDS HAD, IN TERMS OF THEIR T.V. SET AND THEIR V.C.R. AND OTHER EQUIPMENT THAT THEY HAD RELATING TO THEIR TELEVISION RECEPTION, CORRECT?

A. YES.

Q. NOW, AND WHAT YOU DID WAS TO USE THE EQUIPMENT THE WAY THAT HOMEOWNER HAD ACTUALLY SET IT UP HIMSELF OR HERSELF, CORRECT?

A. THAT'S CORRECT.

Q. NOW, IF YOU HAD BEEN HOOKING THE EQUIPMENT UP, YOU MIGHT HAVE BEEN ABLE TO GET A BETTER PICTURE FOR SOME OF THOSE HOUSEHOLDS, CORRECT?

A. I MAY HAVE.

Q. AND THAT'S TRUE IN TWO OR THREE OR FOUR CASES, RIGHT?

A. I COULDN'T SAY HOW MANY, BUT SOME OF THEM HAD SIGNIFICANT AMOUNT OF EQUIPMENT, AND DELETING SOME OF THAT EQUIPMENT MAY HAVE HELPED THEIR RECEPTION.

Q. AND, IN FACT, AT A NUMBER OF HOUSEHOLDS THERE WAS SOMETHING CALLED A SPLITTER, ISN'T THAT RIGHT?

A. THAT'S RIGHT.

Q. AND A SPLITTER IS SOMETHING THAT TAKES A SIGNAL AND

SPLITS IT INTO TWO OR MORE DIRECTIONS, IS THAT RIGHT?
A. YES. DIRECTIONS MEANING DELIVERING THE SIGNAL TO TWO OR MORE END USES, YES.
Q. SO IN SOME CASES THERE WAS A WIRE COMING DOWN FROM A ROOFTOP ANTENNA, AND THEN THE SIGNAL WAS GOING OFF, SPLIT OFF IN TWO DIFFERENT DIRECTIONS, RIGHT?
A. THAT'S CORRECT.
Q. AND YOU MEASURED ONE OF THE TAILS OF THAT Y-SHAPED ARRANGEMENT OF WIRES, RIGHT?
A. IN SOME INSTANCES, THAT'S CORRECT.
Q. AND SO IF YOU HAD MEASURED BEFORE THE SPLITTER RATHER THAN AFTER THE SIGNAL WAS BEING SPLIT, YOU WOULD BE LIKELY TO HAVE MEASURED A STRONGER VOLTAGE, CORRECT?
A. IN ONE OR TWO CASES, NO, THAT'S NOT CORRECT.
Q. BUT IN SOME OF THE CASES WITH SPLITTERS, YOU WOULD HAVE MEASURED -- YOU WOULD EXPECT TO MEASURE A STRONGER VOLTAGE IF THE SPLITTER HAD NOT BEEN PRESENT, CORRECT?
A. FOR THE SYSTEMS WITHOUT SUBSEQUENT AMPLIFIERS, THAT WOULD BE CORRECT.
Q. AND EVEN FOR THE SYSTEMS WITH SUBSEQUENT AMPLIFIERS, IF THE SIGNAL HAD NOT BEEN SPLIT AND THE AMPLIFIER HAD BEEN THERE, YOU WOULD HAVE MEASURED A STRONGER SIGNAL, CORRECT?
A. IF THE AMPLIFIER'S AFTER THE SPLITTER, YES.
Q. NOW, AT HOME YOU RECEIVE T.V. SIGNALS OVER THE AIR, IS THAT CORRECT?

A. THAT'S CORRECT.
Q. AND YOU HAVE AN ANTENNA THAT IS 30 OR 40 OR 50 FEET HIGH, IS THAT RIGHT?
A. THE ANTENNA IS 39-PLUS WITH NINE. THAT MAKES IT 48-FEET ABOVE GROUND LEVEL.
Q. IN YOUR FIRM, ARE YOU FAMILIAR WITH THE SOFTWARE PACKAGE THAT MR. BIBY HAS CREATED THAT ADDS CERTAIN MORPHOLOGY AND VEGETATION ADJUSTMENTS TO LONGLEY-RICE?
MR. DEUTSCH: OBJECTION. MR. BIBY HASN'T TESTIFIED OR ANYBODY ELSE HASN'T TESTIFIED ABOUT ANY SUCH THING. AND I DON'T KNOW WHETHER HE'S SORT OF DOING SOME ANTICIPATORY REBUTTAL OF TESTIMONY THAT HASN'T COME IN YET OR WHATEVER, BUT THERE IS NO RELEVANCE AS TO HOW THE CASE NOW STANDS IN HIS QUESTION.
MR. OLSON: YOUR HONOR, MR. BIBY HAS STATED IN HIS EXPERT REPORT THAT USE OF THIS PARTICULAR SOFTWARE IS STANDARD. AND I BELIEVE I OUGHT TO BE ENTITLED TO DETERMINE WHETHER IT IS STANDARD BY WHETHER IT IS USED BY THE OTHER BROADCASTING ENGINEERING EXPERT RETAINED BY PRIMETIME 24.
MR. DEUTSCH: MR. BIBY HASN'T TESTIFIED AND THAT REPORT IS NOT IN EVIDENCE.
MR. OLSON: YOUR HONOR, MR. COHEN, WITH EVERYONE'S AGREEMENT, TESTIFIED ABOUT MR. BIBY, DISCUSSED THIS VERY TOPIC.
THE COURT: I REMEMBER QUESTIONS ABOUT THE

VEGETATION THROUGH MR. COHEN, SO I'M GOING TO OVERRULE THE OBJECTION.

BY MR. OLSON:

Q. SO YOU ARE, YOU ARE FAMILIAR WITH MR. BIBY'S SOFTWARE THAT ADDS AN EXTRA ELEMENT TO LONGLEY-RICE THAT PURPORTS TO ACCOUNT FOR BUILDINGS AND VEGETATION?

A. I'M AWARE OF IT; I WOULDN'T SAY "FAMILIAR."

Q. AND YOU'VE NEVER USED IT IN YOUR OFFICE, IS THAT RIGHT?

A. NO, I HAVE NOT.

MR. OLSON: YOUR HONOR, IF I COULD JUST HAVE 30 SECONDS, I MAY JUST HAVE ONE OR TWO MORE QUESTIONS.

THE COURT: ALL RIGHT. YOU MAY.

(DISCUSSION HAD OFF THE RECORD.)

BY MR. OLSON:

Q. JUST TWO MORE TOPICS, MR. CULVER, AND I'LL BE FINISHED.

YOU'VE DONE PICTURE QUALITY ASSESSMENTS IN OTHER SITUATIONS IN YOUR BROADCAST ENGINEERING CAREER, CORRECT?

A. THAT'S CORRECT.

Q. AND YOU BELIEVE IT'S IMPORTANT TO HAVE OBSERVERS WHO REPORT FACTUALLY AND WITH INTEGRITY, CORRECT?

A. THAT'S CORRECT.

Q. AND YOU BELIEVE THAT IF THERE IS A BASIS FOR A BIAS AND STRONG SUSPICION THAT THERE MIGHT BE BIAS, THAT IT WOULD PROBABLY BE BETTER TO USE WHAT IS CALLED AN INDEPENDENT OBSERVER, CORRECT?

A. IF THERE WAS SUCH A SUSPICION, YES.
Q. MR. CULVER, I WILL REPRESENT TO YOU THAT THE PARTIES HAVE FILED A STIPULATION IN THIS CASE THAT SAYS THAT AS OF JUNE, 1998, THAT PRIMETIME 24 HAD APPROXIMATELY THREE MILLION SUBSCRIBERS ACROSS THE UNITED STATES. CAN YOU ACCEPT THAT?
A. YEAH, I'LL ACCEPT IT AS HAVING JUST HEARD THAT.
Q. AND I WANT YOU TO ASSUME THAT WHEN I USE THE EXPRESSION GRADE B INTENSITY, WHAT I MEAN IS 47 D.B.U. FOR LOW V.H.F. STATIONS, 56 D.B.U. FOR HIGH V.H.F. STATIONS, AND 64 D.B.U. FOR U.H.F. STATIONS. DO YOU FOLLOW ME?
A. YES, I FOLLOW YOU.
Q. IN YOUR PROFESSIONAL OPINION, HOW MANY OF PRIMETIME 24'S THREE MILLION SUBSCRIBERS AS OF JUNE, 1998, CAN RECEIVE, THROUGH USE OF A CONVENTIONAL OUTDOOR ROOFTOP RECEIVING ANTENNA, AN OVER-THE-AIR SIGNAL OF AT LEAST GRADE B INTENSITY FROM A CBS STATION?
MR. DEUTSCH: OBJECTION, OBJECTION.
THE COURT: OVERRULED.
YOU CAN ANSWER THAT.
A. I HAVE NO WAY OF TELLING YOU EXACTLY HOW MANY WOULD BE ABLE TO RECEIVE THAT.
Q. AND WOULD YOUR ANSWER BE THE SAME WITH REGARD TO HOW MANY OF THOSE THREE MILLION SUBSCRIBERS COULD RECEIVE A GRADE B INTENSITY SIGNAL FROM A FOX STATION?

A. MY ANSWER NOW, AND PROBABLY THE SAME ANSWER THAT HAS EVER BEEN ASKED OF ME, IS I WOULD HAVE NO WAY OF TELLING OF ANY STATION OR ANY RECEIVER, KNOWING WHAT THE SIGNAL LEVEL WOULD BE.

MR. OLSON: NO FURTHER QUESTIONS, YOUR HONOR.

THE COURT: ANY REDIRECT?

MR. DEUTSCH: JUST A COUPLE, AND THEN THE MAN HAS AN AIRPLANE TO MAKE.

THE COURT: ALL RIGHT.

REDIRECT EXAMINATION

BY MR. DEUTSCH:

Q. MR. CULVER, MR. OLSON ASKED YOU ABOUT THE FACT THAT AT TWO OF THE SITES -- FIRST THE VIDEO WAS SHOWN, I BELIEVE IT'S FOUR AND SIX -- WHERE AFTER MEASUREMENTS WERE MADE, ASKED YOU ABOUT THE FACT THAT THERE WERE BOTH GOOD PICTURES AND GOOD SIGNAL STRENGTH AT THOSE TWO SITES, IS THAT RIGHT?

A. THAT'S CORRECT.

Q. ALL RIGHT. IS IT ALSO TRUE THAT AT SITE 10, WHERE YOU MEASURED INDOORS, YOU FOUND THAT THE PICTURE QUALITY WAS PASSABLE OR ACCEPTABLE?

A. THAT'S CORRECT.

Q. AND ALSO AT SITE 12 WHERE YOU MEASURED INDOORS THAT THE RECEIVE INPUT VOLTAGE WAS ABOVE THE GRADE B CUTOFF.

A. THAT'S CORRECT.

Q. SO IT ISN'T THE CASE THAT INDOORS OR OUTDOORS IS WHAT